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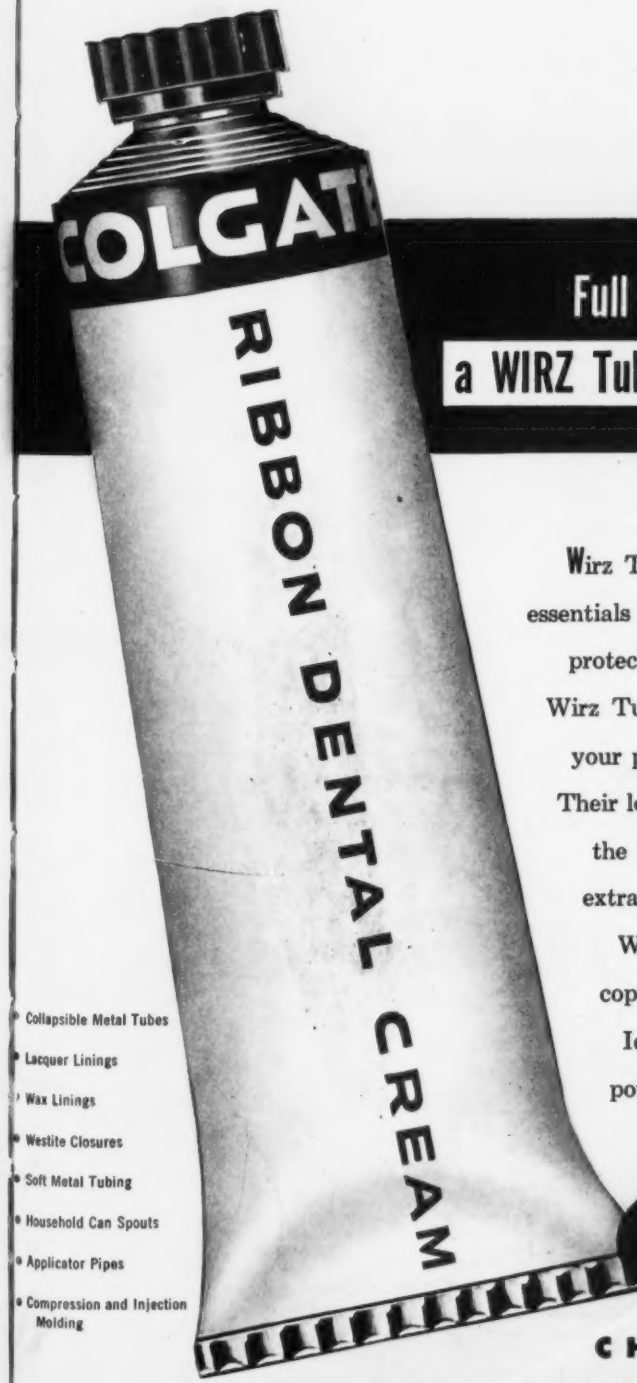

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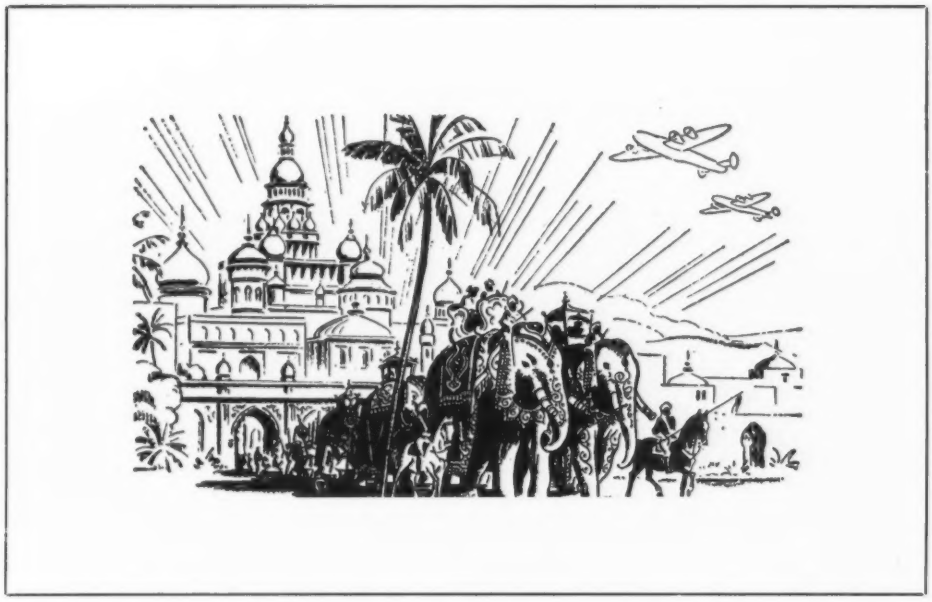

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CONTENTS · AUGUST 1950

The New Look in Cosmetics
Ralph L. Evans, Ph.D. 113

Myrcene from Beta Pinene
E. L. Patton 118

Sources for New Product Ideas 118

Properties of Hydroxycitronellal
Paul Z. Bedoukian, Ph.D. 119

Aluminum Stearate as a Thickener
John Rae 122

Are Salesgirls Really Sacred?
Jill Jessee 123

Florida Persian Lime Oil
J. W. Kesterson 125

Valerates and Isovalerates
Morris B. Jacobs, Ph.D. 135

A Veteran in the Vanilla Industry 137

Glycerine in New Cosmetics
Joyce C. Kern and Robert A. Stetson 139

REGULAR FEATURES

Desiderata—Maison G. deNavarre 109

Questions and Answers 111

What the Retail Buyers Report 129

Flavor Section 135

Soap Section 139

New Packaging and Promotions 145

Hints for Improving Production 147

Washington Panorama—Arnold Kruckman 151

The Round Table 153

Market Report 163

Prices in the New York Market 165

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Editorial Comment

Manufacturers Wisely Shun Abnormally Large Orders

Manufacturers of cosmetics and allied lines who are now trying to anticipate the possible, but not probable, course of international events by placing or trying to place inordinately large orders for raw materials and supplies for future delivery are doing a disservice to the industry and are helping to hasten a sudden inflation which everyone dreads.

The larger makers of containers and other supplies, well aware of their responsibility, are wisely staving off this trend which might easily disrupt their normal manufacturing schedules and later may well lead to results which all might deplore. Some of them are accepting orders of an abnormal size only with the reservation that deliveries are to be made at well spaced intervals after current orders are filled and also subject to the qualification that price quotations are to be amended during the life of the contract if unforeseen events warrant increases. If nothing more this policy tends to keep business on an even keel.

While information from Washington is often confusing, it seems that there are and in all likelihood there will continue to be, regardless of political developments, sufficient supplies of practically all raw materials used and needed by the cosmetic and its allied industries. Some useful lessons were learned during World War II and it is not likely that they will soon be forgotten.

T.G.A. Cautions Members Against Panic Buying

The timely suggestion of the Toilet Goods Assn. to its active members not to buy abnormal quantities of any materials or supplies; to maintain good but not excessive inventories; and to cut down without hesitation the size of abnormal orders from wholesalers and retailers is sound and well taken. This is also true of its recommendation to its associate members to be cautious in filling abnormally large orders from cosmetic manufacturers.

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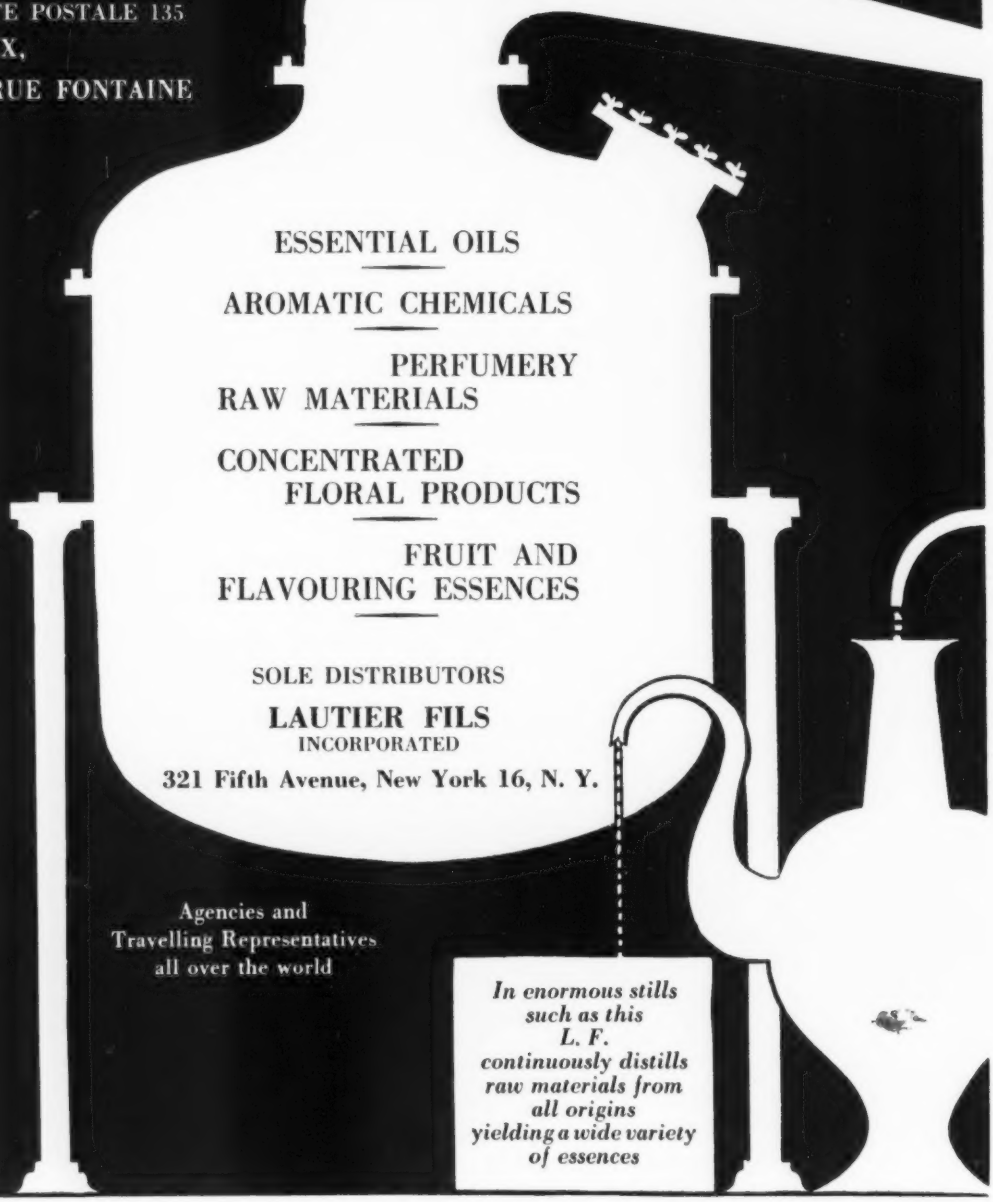

In enormous stills such as this L. F. continuously distills raw materials from all origins yielding a wide variety of essences

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For really fine flowery fragrance—be it in creams, lotions, powders or even extract or cologne strength—you will find that Floralie No. 21 gives amazing results at surprisingly low cost.

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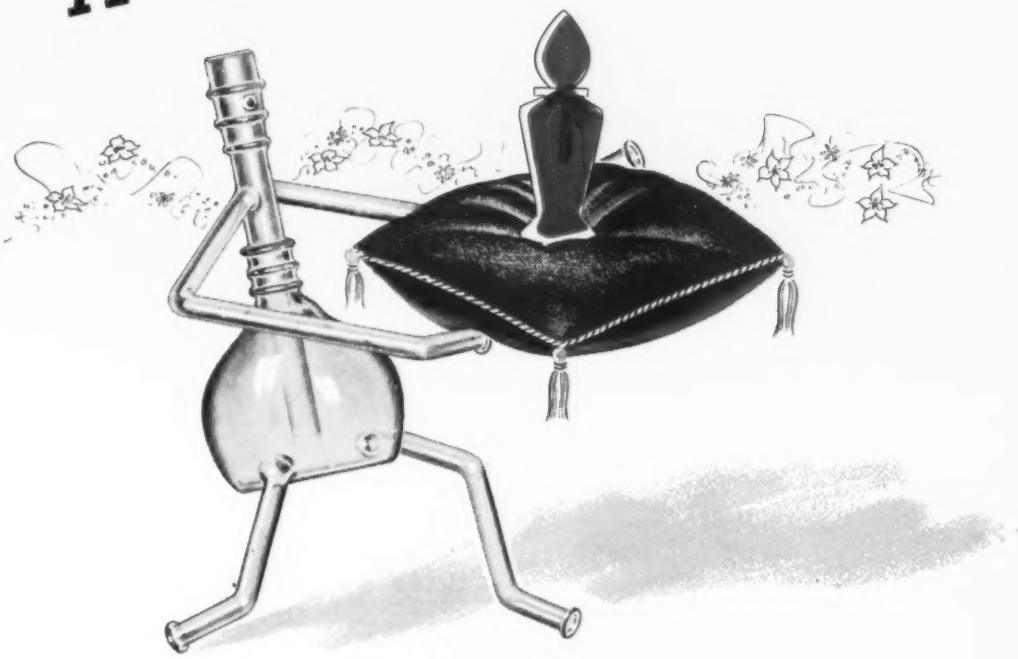

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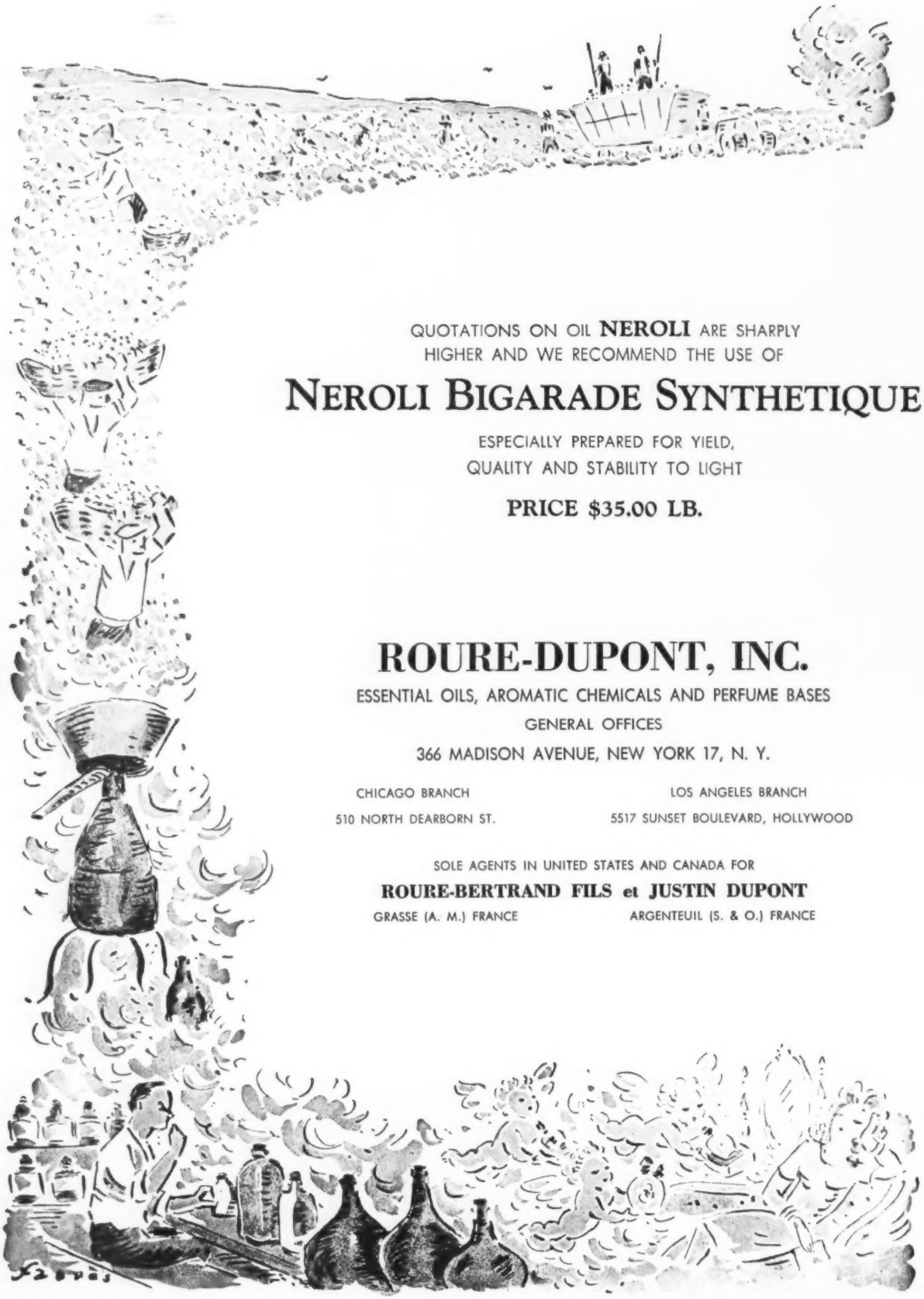

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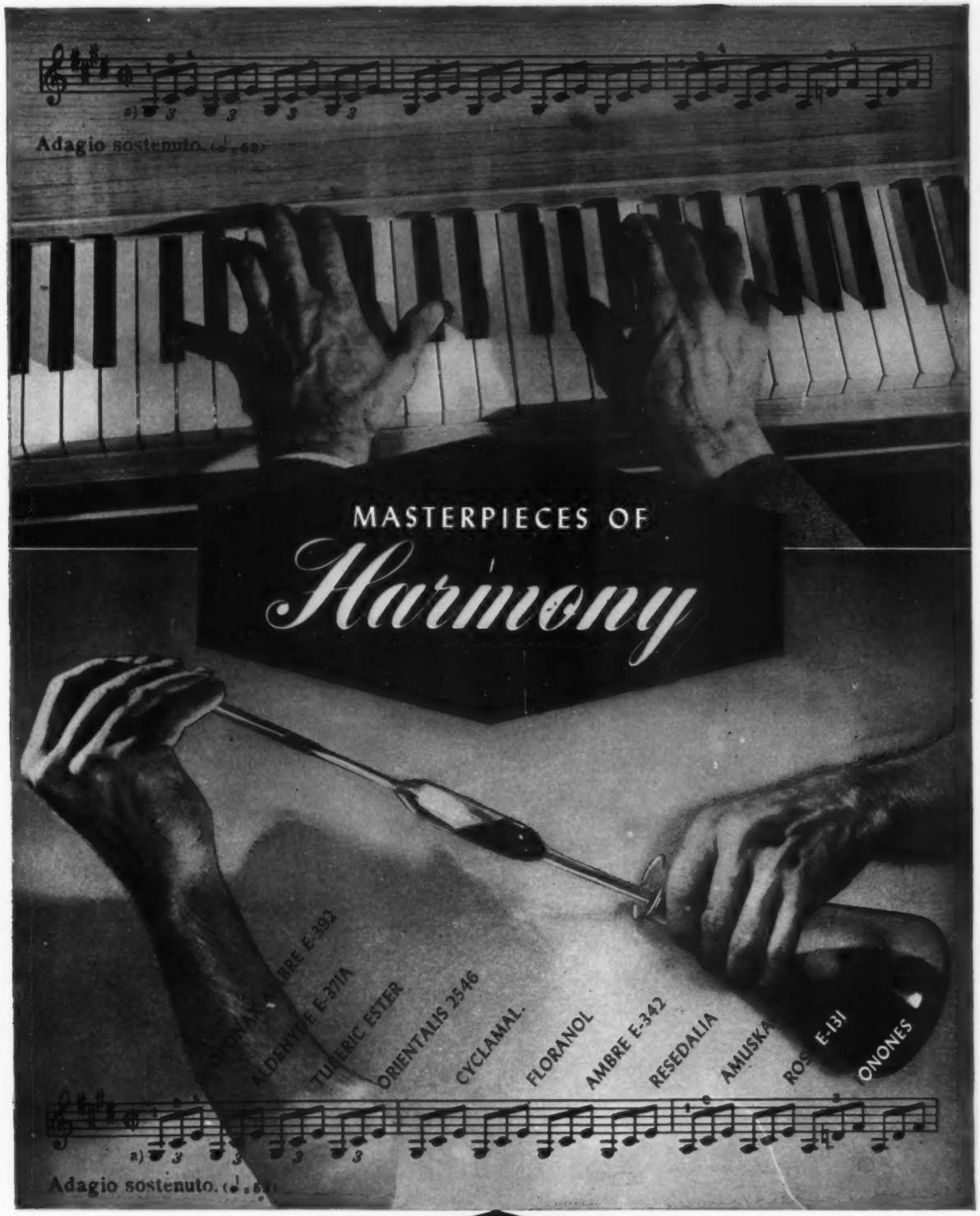

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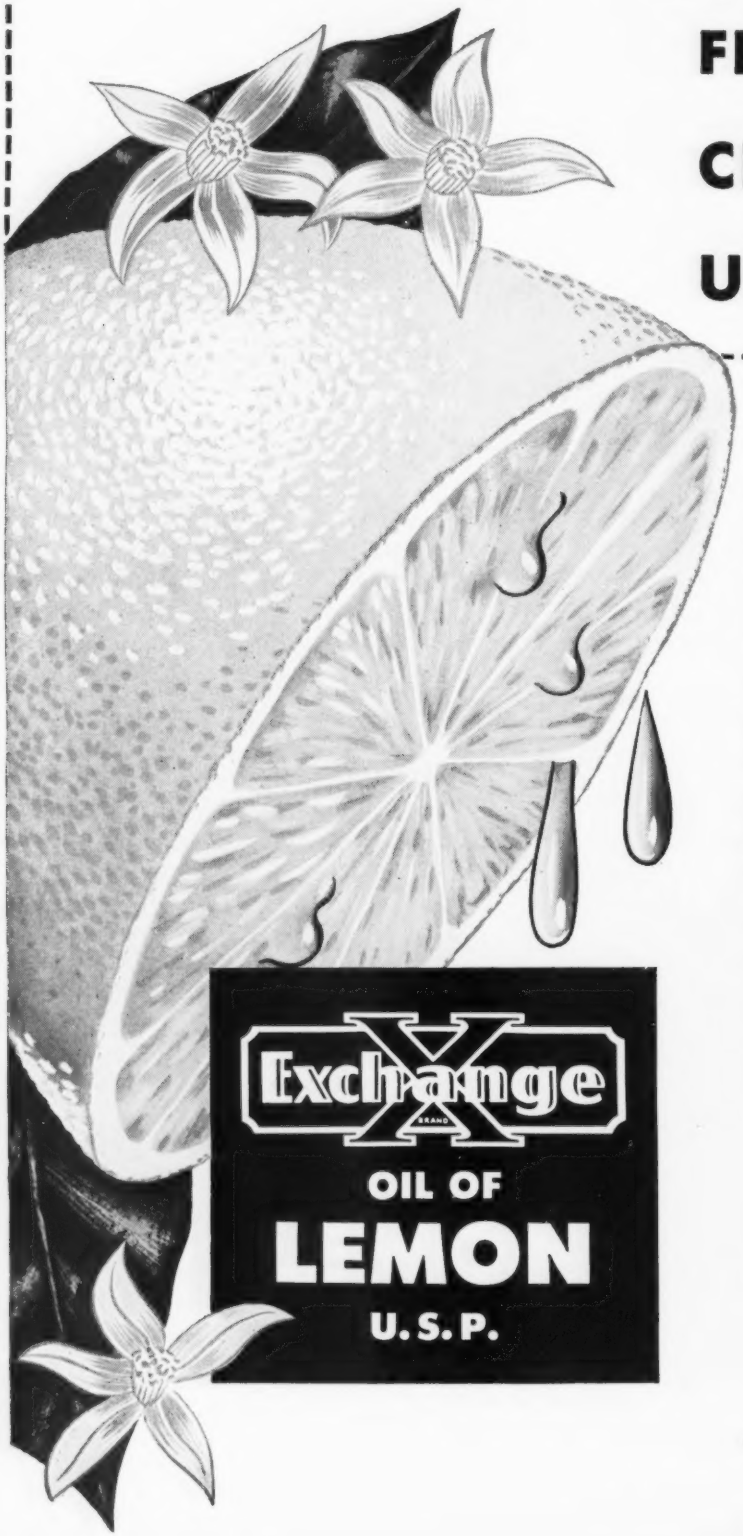

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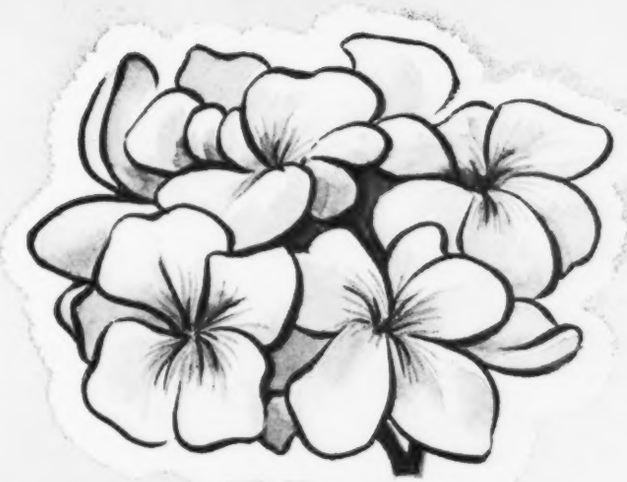

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NTHETIC No. 17835 makes possible tre-
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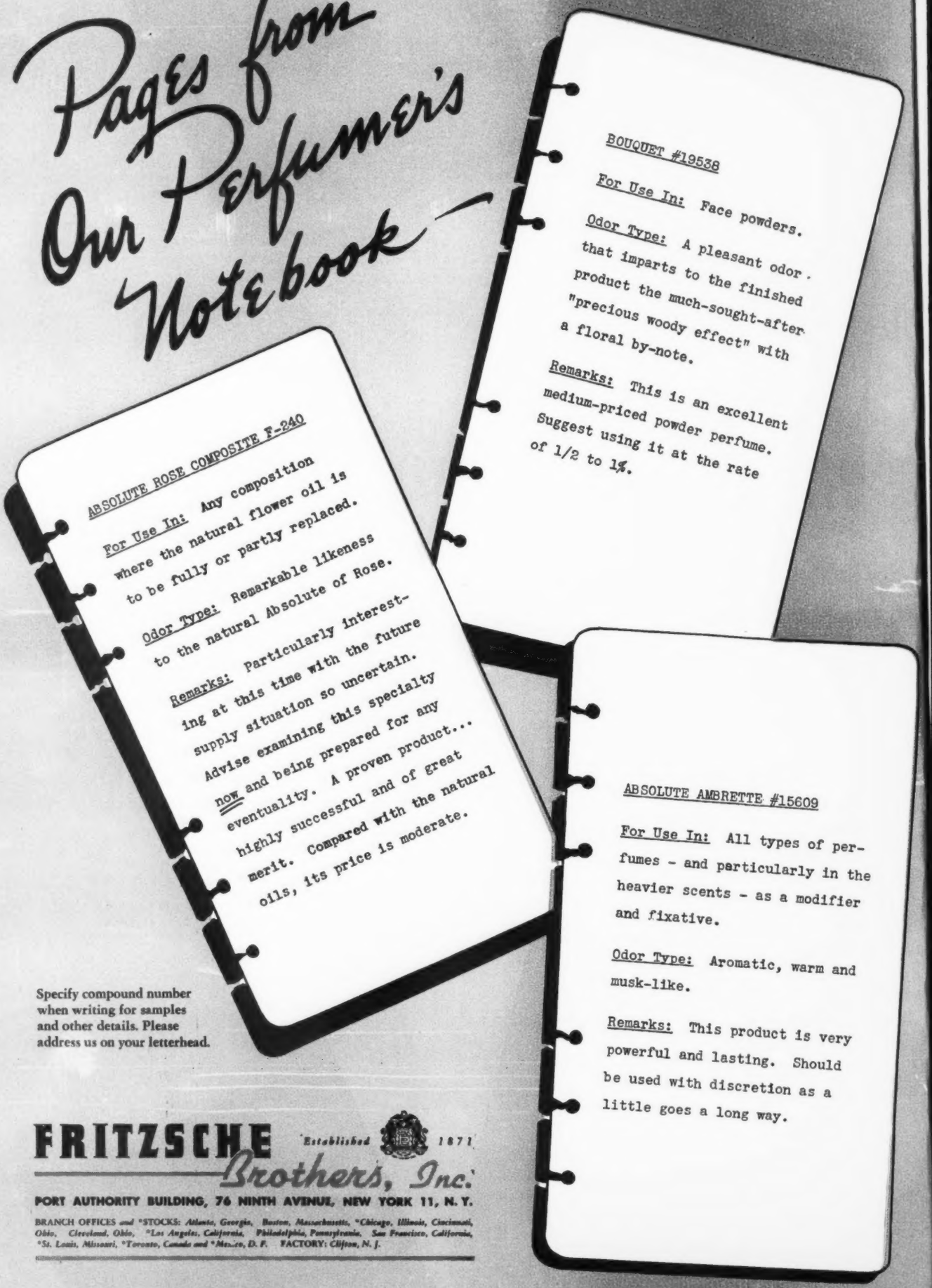
BOUQUET #19538
For Use In: Face powders.
Odor Type: A pleasant odor that imparts to the finished product the much-sought-after "precious woody effect" with a floral by-note.
Remarks: This is an excellent medium-priced powder perfume. Suggest using it at the rate of 1/2 to 1%.
ABSOLUTE ROSE COMPOSITE F-240
For Use In: Any composition where the natural flower oil is to be fully or partly replaced.
Odor Type: Remarkable likeness to the natural Absolute of Rose.
Remarks: Particularly interesting at this time with the future supply situation so uncertain. Advise examining this specialty now and being prepared for any eventuality. A proven product... highly successful and of great merit. Compared with the natural oils, its price is moderate.
ABSOLUTE AMBRETTE #15609
For Use In: All types of perfumes - and particularly in the heavier scents - as a modifier and fixative.
Odor Type: Aromatic, warm and musk-like.
Remarks: This product is very powerful and lasting. Should be used with discretion as a little goes a long way.

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• • • • •

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PLEASE TURN THE PAGE ➤ ➤ ➤ ➤ ➤ ➤ ➤

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Pages from Our Perfumer's Notebook

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For Use In: Any composition where the natural flower oil is to be fully or partly replaced.

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9 ☐ Shaving Brush Container
10 ☐ Lotion Pump
11 ☐ Lotion Dispenser
12 ☐ Concealed Thread Jar Cap
13 ☐ Concealed Thread Bottle Cap
14 ☐ Serum Clamp

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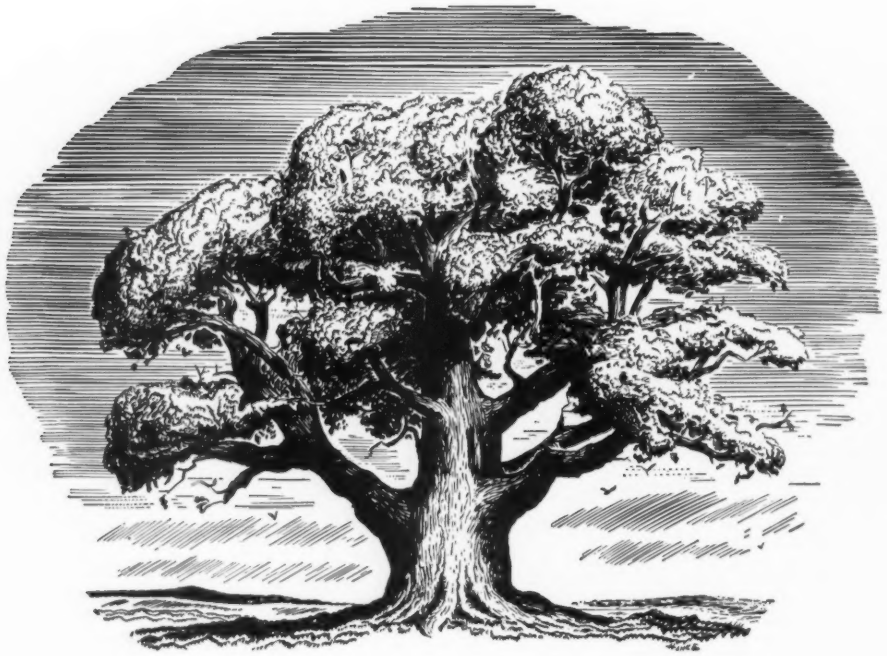

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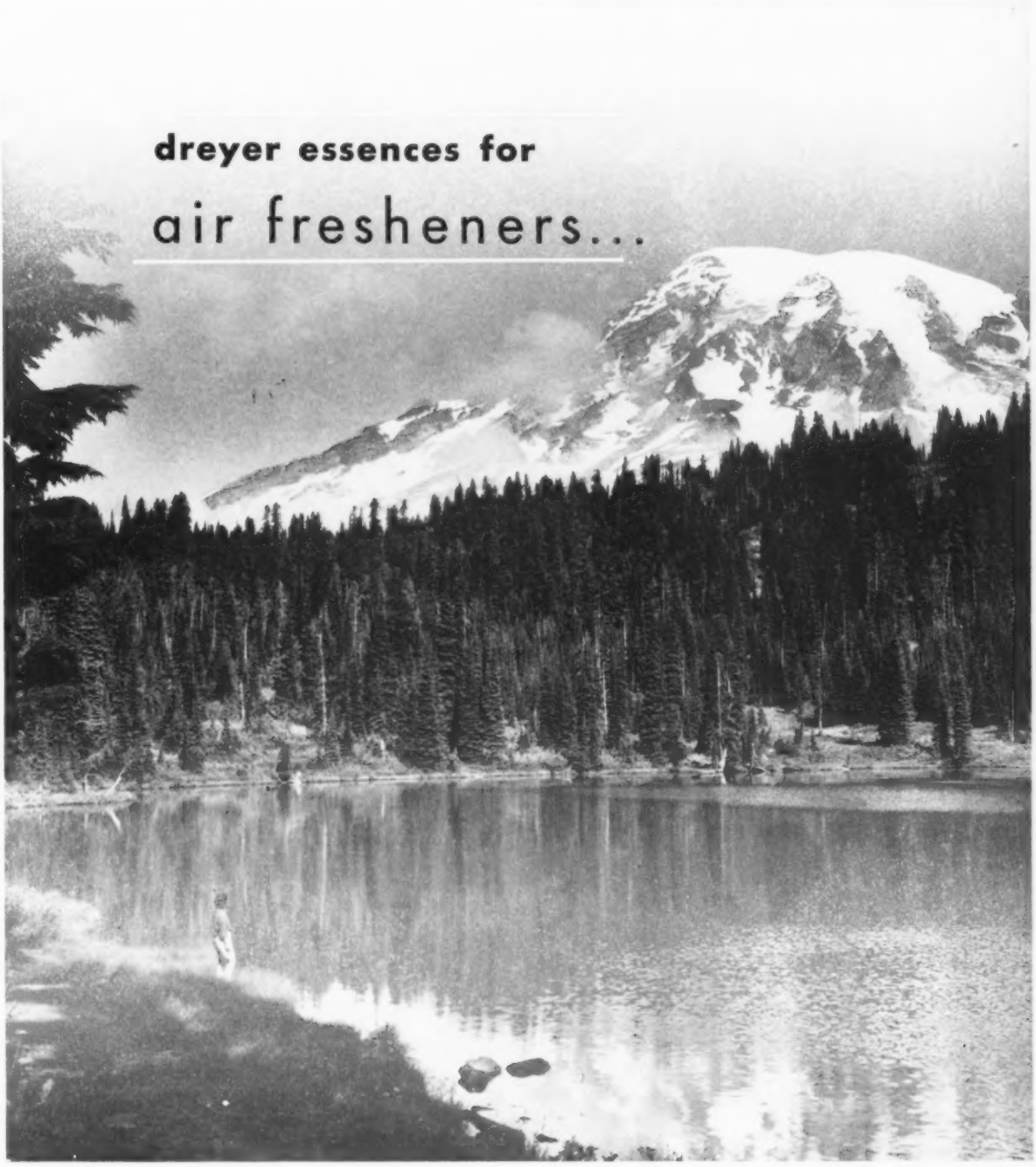

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Desiderata

by MAISON G. deNAVARRE

M. G. deNavarre at work in his laboratory

Curl Forming Shampoo

Another *new* product has hit the market, a curl forming shampoo. Literature accompanying one of the products implies that the same magic ingredient is present in the curl forming shampoo that was used in the curl capsules of yesterday. This department hopes that that statement is not true because we all know that the curl capsules turned out to be a flash-in-the-pan.

Analysis of the present curl forming shampoo discloses nothing outstanding. The shampoo is faintly alkaline (PH 8.2) and it appears to be essentially a cream shampoo and not heat stable at that. Whether or not the magic ingredient is present has not been determined to date.

This department questions seriously the effectiveness of a curling shampoo that is devoid of high alkalinity which is required for waving, contains no readily distinguishable reducing substances and is only a little on the alkaline side. But maybe it has a magic ingredient that has hitherto not been used for the purpose of waving hair.

Thioglycolate Producers

While on the subject of waving, Bob Kramer (Evans Chemetics, Inc.) and I were discussing the number of people who have started making thioglycolates for use in waving hair and of that number the ones who are still in business. In his usual thorough way, Bob has methodically listed all the companies that he knows of personally and that he has heard of and checked as being actual makers of thioglycolic acid and its salts. Between us we checked three dozen people more or less; of them the ones who were still making the products, you can count on about one hand. Involved in each of the enterprises that started and failed is the spending of a substantial amount of money. Too often the company went bankrupt or closed that department because of fire, an ever present liability. Cash losses run anywhere from a few thousand on up, but the joke is that about two or three people figure in several of these failures. Apparently they sell the idea to someone and a group is formed to manufacture thioglycolates and eventually they have a fire and go broke. The same individual sells someone else on the idea and the story repeats itself. One would think that people who have so much money to invest would check on the background of the successes or failures of the individual promoting the idea. It seems that people with money believe anything and invest it readily on the strength of words, only to find eventually that performance is not forthcoming.

One cannot make a fast buck from thioglycolates because the rate of equipment replacement is almost backbreaking. Ask the few who are still in it.

Liquid Cream Shampoo

Quite regularly we get inquiries for a liquid type of cream shampoo, occasionally to be made with egg.

The best foaming agent continues to be a fatty alcohol sulfate paste, constituting anywhere from 25-45 per cent of the finished liquid cream shampoo. A permanent opacifier such as magnesium stearate is very desirable although whitening or opacifying of the liquid can be obtained with the higher alcohols, spermacetti or other higher alcohol esters. In view of the inclusion of a metal stearate, a mucilagenous thickener such as a solution of polyvinyl alcohol; methyl cellulose, solubilized methacrylate gum, alginate, Irish moss or carboxy methyl cellulose should be used to the extent of from ½ per cent upward depending on the thickening agent used. It is a custom to use 1 per cent lanolin and either a glycol or glyceryl laurate or stearate to the tune of 1 or 2 per cent to further opacify and thicken the emulsion.

In manufacture, the permanent opacifier or metal stearate is rubbed down with the alcohol sulfate; the thickening agent is made into an easily handled mucilage; these are then mixed and the other ingredients added. If spermacetti or higher alcohols are used as opacifiers, they should be mixed with the alcohol sulfate paste and heated until melted. The mixture is emulsified and the balance of the ingredients then added. The whole thing may be colloid milled.

In solid cream shampoo, the fatty alcohol sulfate paste still gives the maximum lather and sodium stearate continues to be the best stabilizer. At least 5 per cent should be used and preferably more; 8 per cent is a desirable figure. An excess of stearic acid is also useful; 1 per cent of lanolin with or without higher alcohols can be included. The sodium stearate should be made within the mass. One of the preferred methods is to dissolve the sodium hydroxide required in some of the water and bring to about 75 C. The balance of the ingredients are heated with the alcohol sulfate and brought to the same tempera-

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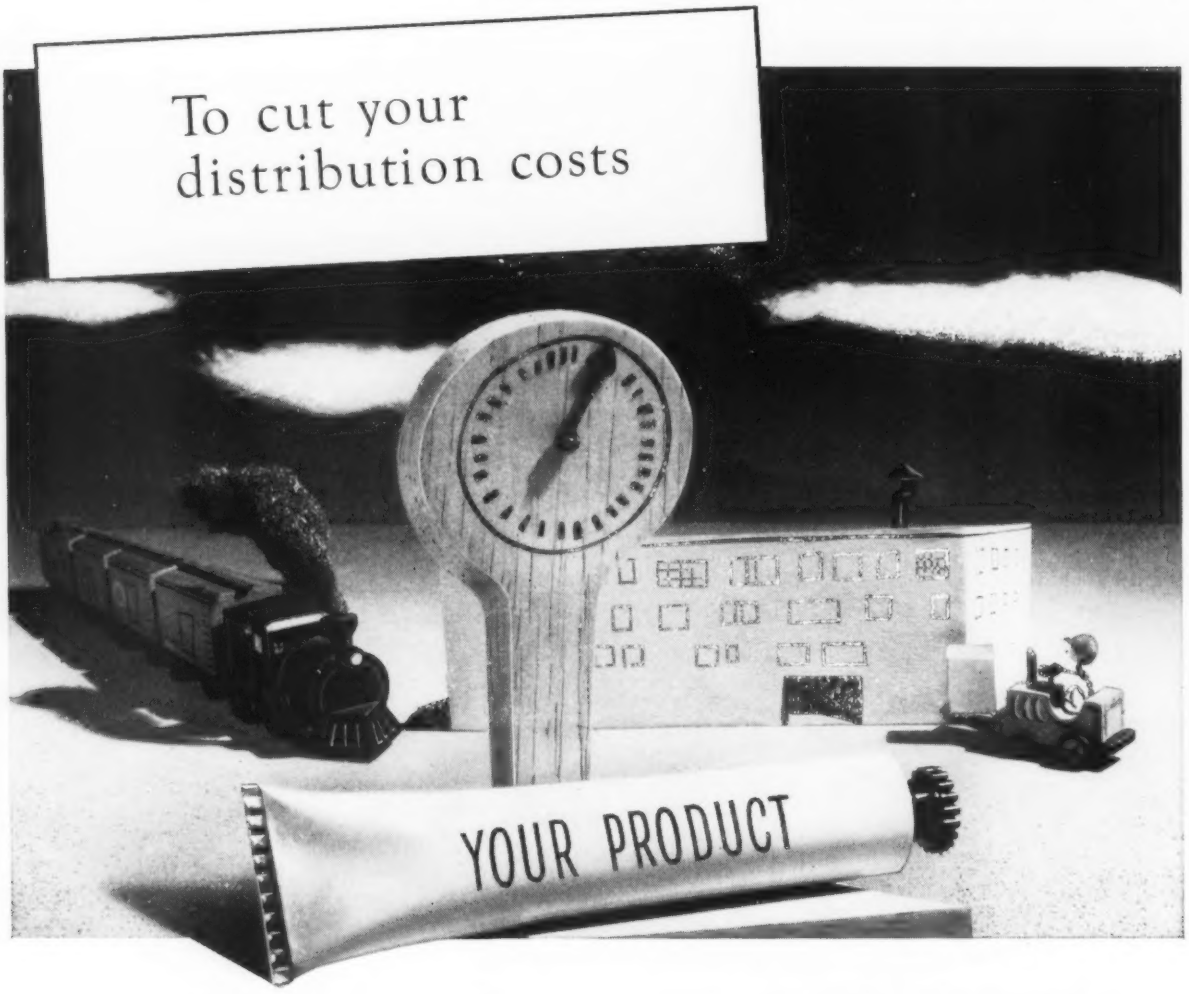

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ture. Under agitation, add the alkaline solution. Pour at approximately 50°C. after the shampoo has been perfumed and colored.

Standard pH Scale

The Bristish Standards Institute has prepared specification #BS 1647, 1950 for a pH scale. The object of this standard is to make certain that when different workers refer to a stated pH value they mean the same thing within plus or minus 0.005.

One questions whether this degree of accuracy is obtainable in industry whether using British or American equipment. Possibly in laboratory work of academic nature, you can report so accurately. It is the experience in industry that even among workers who use their pH meters regularly against fresh buffers using electrodes in good condition, that a maximum degree of agreement in plus or minus 0.1 pH unit. The reasons for this variation is easily explained when you realize that there are a number of variables in the pH meter itself. The batteries may not be too old but may be aging. The amplifying tubes may be satisfactory but likewise showing the effect of usage. The electrodes, particularly the glass electrode, may be slightly marred or may have been stored under imperfect conditions resulting in inaccuracies. Temperatures play an important role. The product itself affects the pH because of imperfect wetting of the glass electrode. When you add all of these variables up and then throw in the maximum accuracy of the recording dials and of the individual making the test, the best you can expect is a plus or minus 0.1 unit.

Revealing in the British specification is the realization that pH, to be a measurable quantity, must have a definition that is operational and therefore arbitrary and is no longer expressed as $-\log_{10}C_H$. The primary standard is $\frac{1}{20}$ molar solution of pure potassium hydrogen phthalate whose pH is 4 at 15°C.

New Mortar

After all the years of using a mortar and pestle a new design reflecting the first basic change ever effected in this pharmaceutical tool is manifested in a device known as the Cooper Mortar and Pestle, the invention of a Baltimore pharmacist of the same name. In the place of the conventional bowl shaped mortar and a club-like pestle, the mortar has straight sides and a flat bottom, and the pestle is of the same design. The grinding surface is of course unglazed.

This improvement gives a larger contact area between the mortar and pestle and thereby greatly increases grinding, mixing or emulsifying surfaces.

Questions and Answers

819: NEUTRAL LIQUID SOAP

Q. What could I use to produce a liquid soap? It must be neutral and harmless to the skin. On page 281 in the October 1949 issue *American Perfumer* you mentioned an automobile cleaner and a new detergent. Will you give me complete details about these two products and also source of supply? On page 437 of the November 1947 issue of the *American Perfumer* you made note of a cheap rose perfume for use in soap, shampoo, etc., which sold for $3.50 lb. Will you kindly give me the name of the perfume and source of supply? *N. B., Conn.*

A. We find ourselves unable to give you a formula for a liquid soap such as that described in your letter. It verges on the miraculous. Supplier of the cheap rose perfume for soap, the new surface active agency, and the material for use in washing automobiles is sent to you under separate cover.

820: DEODORANT SOAPS

Q. The new deodorant soaps, which are making considerable headway with the trade, contain bacteriostats, which seem to be new organic compounds. I am speaking primarily of the soap product put out by Armour, called Dial, the new product called Fresh Deodorant Soap and Charm being marketed by Packers Company. Which of these compounds do you suggest, and how do you feel about the use of alkyl aryl sodium sulfonate for deodorant use? Manufacturers claim it destroys causative organisms.

M. E. A., Washington

A. The active ingredients in deodorant soaps is a product called hexachlorophene. The supplier's name goes to you by separate letter, and if you write them they will tell you the amount to use. Usually 2% is used. Considerable work would have to be done regarding the results of continued use of an alkyl aryl sodium sulfonate as a deodorant. We know the suppliers make many claims for it, but to our knowledge no actual deodorant tests have been made under controlled conditions on humans. Some of these products are reputed to be effective for this purpose.

821: CREAM WAVE NEUTRALIZER

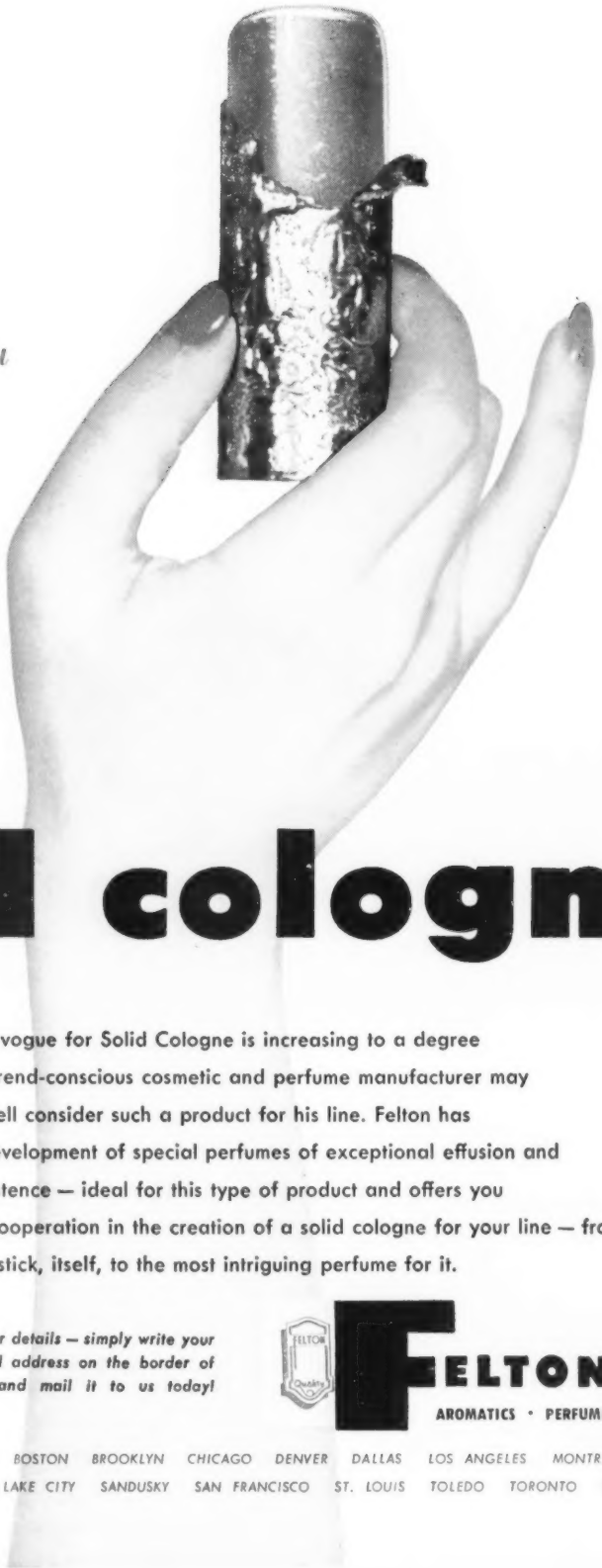
Q. Would it be possible to obtain from you any formulas on a cream neutralizer for a cold wave, cream shampoo paste and liquid, and a cream rinse? Any data that you can send me would be very much appreciated. *R. W. Maine*

A. In our letter reply we enclosed two reprints on cream shampoo. The following formula for a cream hair rinse will give you a very useful product: A. 12½ per cent cationic compound, 1 per cent propylene glycol laurate or cetyl alcohol. B. Water to make 100 per cent. Heat A to 65°C. Add ⅓ of B at same temperature. Form emulsion. Dilute with balance water at room temperature. We are sorry to be unable to help you with a formula for a neutralizer for cold wave since you do not indicate what active compound is to be present in this.

822: FINGER WAVE SOLUTIONS

Q. Will like to know the difference between "stringy" and "non stringy" finger waving solution, and a formula for each. *A. B. New York*

A. The difference between the stringy and the non stringy type of waving solution is a matter of pH in the case of karaya gumm solutions or it may be the choice of gum. Thus quinceseed mucilage is stringy. Two per cent karaya gum is not so stringy, but if the acidity of the gum is neutralized with different alkalies, stringiness results to different degrees, depending on the amount and kind of alkali used. This product is discussed in detail in the book, "The Chemistry and Manufacture of Cosmetics," which you should have in your possession. Borax is the alkali most often used.



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The "New Look" in Cosmetics

The development of permanent waving . . . New cleansing agents . . . A look into the future . . . Textile brighteners in cosmetics . . . Benefits from antiseptic deodorants

RALPH L. EVANS, Ph.D*

DURING the last 20 years of the 19th century the use of cosmetics was at the lowest ebb in recent History. Except for the use of floral perfume or light cologne, or perhaps some white face or talcum powder no "lady" should be suspected of using the devil's artifice. Soap and water cleansing was a must and the complexion was carefully protected from sun, wind, and dust by large hats and veils. Thus at the end of the 19th century, as at the end of the 18th, the unadorned, natural look was "the new look." It is said that in 1900 only three hairdressing salons existed in the city of New York.[1] By 1949 there were said to be 123,230 such shops throughout the United States.[2]

The Marcel Wave

Toward the end of the 19th century, a French barber, François Marcel Grateau, learned how to use curling irons to simulate the natural wave in women's hair and in 1897 he published official instructions for the method.[3] The Marcel wave was adopted at once by hairdressers everywhere and until the reasonably-priced permanent wave was an accomplished fact, this wave made with hot irons was the most popular means of dressing the hair.

Probably Marcel waving was the chief reason why beauty shops started to grow outside of Paris in the early 1900's. Dyed hair was becoming more acceptable and it was no longer necessary to hide the use of some make-up. Creams were improved when Daggett and Ramsdell found that white mineral oil, substituted for perishable vegetable oils, did not turn rancid after a short period of time. Heavier and more exotic perfumes replaced the simpler floral types. Lipstick, rouge, and powder were offered in convenient containers that could be carried in a handbag.

Meanwhile, the nature of the skin and the effect of cosmetics upon it have been under investigation. Cleansing of the skin is being freed from the limitations of soaps by the use of synthetic detergents, which are valuable for cleansing, emulsifying, leveling, and softening purposes. Supplemented by so-called sequestering agents such as polyphosphates and amino acids, the surface-active group has ballooned so rapidly that, including true soaps, it offers agents active at almost all types of interfaces, under all ranges of pH value, and throughout all degrees of polarity.

Undoubtedly the most profound change in cosmetic compositions has resulted from the introduction of these synthetic surface-active agents. Originally offered as soap-substitutes, these materials have proved to be far more versatile and effective than simple soaps for almost all uses. Soapless shampoos have replaced soaps. Synthetic emulsifiers dominate their field; indeed, in low pH ranges, they are about the only ones in general use. Dispersing agents, clouding agents, suspending agents, thickeners, and thinners are all represented in this general group. Such synthetics have become the most important family of cosmetic raw materials. They have made the fats, oils, and emollients far more effective for old uses and valuable for totally new ones. Their number, composition, and range are constantly increasing and their total contribution is expanding almost logarithmically.

The Cosmetic Future

But our question today includes a look into the future—a trip directed by a bright and shiny crystal ball. Can we foretell the cosmetic future? "Yes," if all we do

* Evans Research and Development Corp.
Photograph from Ciro.

is to extrapolate trends; "No," if we must anticipate completely new influences not now apparent. Some changes in interest and direction have occurred in the last few postwar years, and perhaps they lend clairvoyance.

Although earlier work in the cosmetic field emphasized preparations for the skin, the market for the last four years undoubtedly has accented preparations for the hair. Such preparations include color rinses, dyes and tints, grooming agents, and, most important, permanent waving solutions, shampoos, and cream rinses. The "new look" demands shining cleanliness of the hair and soft and natural-looking waves.

New Shampoos

The requirements of a modern shampoo are exacting. It must cleanse the hair and scalp thoroughly without irritation and without removing too much natural oil. The hair must be left soft and lustrous. The solution cannot be excessively alkaline—it should not give a precipitate with the calcium salts in hard water. It must lather quickly and copiously, because the consumer is convinced that lather is an attribute of an efficient shamoo. Soap shampoos, such as those containing coconut oil soap, suffer from the limitations of soaps and the deposition of calcium soaps may give the hair a dull appearance. Soapless shampoos have revolutionized the industry over a period of 15 years. Their increasing popularity lies in an ability to cleanse in hard water without depositing calcium salts on the hair, thus leaving it with a natural sheen.

Men's Products Not Offered Properly

World War I emancipated cosmetics from the repressive effect of the Victorian era. The urge for feminine freedom of expression produced bobbed hair, short skirts, one-piece bathing suits, silk stockings, and flimsy underwear. World War II did not liberate us from more drastic repressions nor destroy a host of feminine inhibitions because women already were remarkably free to do as they pleased. Pity the poor males—even two world wars have not released them from the high collar and tie or the sweltering summer coat! As for cosmetics, the development of so-called "Men's lines" has received a check, primarily, I believe, because the products offered have followed too closely the path traveled by products designed for women. As products more suitable for masculine use are conceived and developed, more men will use them. But I do not mean to say that men are not heavy consumers today. Indeed they are. But their inhibitions form a greater barrier to wider use than is the case for women. This may mean that women are braver and more adventurous than men. I believe this is true in a broad sense. Men are brave if they believe they can overcome their opposition—women are brave enough to tempt their terrors before they are confident of success.

Inhibitions influence Cosmetics

As for inhibitions against the use of cosmetics, these are more important for men than for women, but they exist for both. Fear of ridicule is one of the greatest of all personal fears. "What will people say?" It takes a pioneering spirit to find out! But some progress is being made constantly. Among women's cosmetics, the most neglected include tints and dyes for hair. "She dyes her hair" has for so long been an expression of riducule, that women over forty are afraid to recolor hair already gray. If is safe to say that not ten per cent of the women of America recolor their hair when it turns gray. A greater proportion of younger ones would like to change their hair color from what it is to something new. Such a practice between the ages of fifteen and thirty-five may accustom them to the idea of recoloring gray hair when it comes. It is remarkable that more than half the women of the country will have a permanent wave but so few will dare to use a hair dye.

Hair Dyes

One explanation of this difference in attitude is that women of all ages with straight hair want waves or curls, and because straight hair has nothing to do with age, there is no self-conscious blocking. But because gray hair is regarded as a symbol of advancing age, its concealment is regarded as a sham or a fraud. Yet "falsies" and pads and bustles and rats have been freely employed to change milady's contours. This fear of ridicule is, nevertheless, the principal bar to almost universal use of hair coloring. All others may be blamed upon deficient technology. Perhaps hair dyes are too troublesome, too undependable, too costly, too dangerous. The problem of the retouch line—the demarkation between dyed hair and new growth of gray—is yet to be satisfactorily solved. But technical factors are being overcome. And its interesting to note the increasing reception, especially abroad, accorded to the "fancy shades," blues, purples, reds and titians.

Thus it may be predicted that, with improved technology, hair dyeing will become more generally accepted among women—perhaps even among men. If so, the market is tremendous and the frequency-of-use factor multiplies the demand many fold. More "important names" in the cosmetic field will offer hair dyes. The allergy problem is no longer paramount as it was a generation ago. Legal provisions combined with chemical and medical advances may soon wipe it out completely.

Dyeing Problems

And about hair dyeing? Can we predict continued supply of melanine after forty? Not as yet—we know a little more about the nature of melanine as a pigment and its relationship to tyrosine and dihydroxyphenylalanine or dopa,[4] but how and why it is segregated by the papilla and fed to the hair shaft is still a mystery. Yes, we probably have an oxidation and a condensation. Perhaps a peroxide promotes formation of free radical, which leads to polymerization and formation of insoluble pigment. But to color hair this way? Not yet, but work is being done. Meanwhile we must still depend upon coal-tar derivatives, especially phenylene diamines and related products, intermediates of small molecular size, which, when oxidized, condense (or polymerize) with themselves or with secondary acceptors like phenols or anilines to form insoluble color bases that may be chemically combined with keratin.

How will we use our newly-acquired knowledge of the effects of reducing agents, especially mercaptans, on hair? We now know how to change the shape of hair or even peptize it to destruction. Can we use the same key to unlock the door to better hair coloring? Can we use it to expand the interlattice dimensions so that still larger color-bearing molecules can be made to enter the keratin structure? Will these techniques permit us to color hair quickly in the cold as we now dye wool in the hot, using acid dyes? Or maybe vats?

Rise of the Permanent Wave

Although hair probably is the first appendage of the skin to receive cosmetic attention—perhaps because of its convenience as a handle during primitive courtship—the recent resurgence of interest in preparations for the hair suggests that it has been badly neglected. The most spectacular rise ever experienced in the cosmetic business has been the recent meteoric growth of home permanent waving. Cold permanent waving resulted from combining an interest in depilation with a background of hot permanent waving and the application of basic chemical principles to the study of keratin. But the inventor of cold permanent waving did not realize how profound would be the influence of his work, nor how enthusiastic its reception in the home. Though cold waving processes are used in giving the majority of all beauty-shop waves in America, it is safe to say that the home permanent has nearly doubled the total number of permanent wave users in the United States during the last four years. This business is now so big that it is conducted by the giants of our industry, and permanent waving has taken first place in volume away from shampoos.

In 1906 Charles Nessler invented the permanent wave.[5] Its cost and the time required for the operation, however, prevented many hopefuls from enjoying this revolutionary 'new look.' In that first year, in Paris, it is said that eighteen such waves were given at a cost of $1,000 each.

Beauty Shops Increase

By 1915, the permanent wave, reduced in price, had arrived in America. In 1944, 30-35 million permanent waves were given in the United States. Four or five million of these were cold waves, of which about one-half million were given at home. In 1949, 50-60 million waves were given in the United States; over 40 million of these were cold waves, of which about 25 million or more were given at home. Although the steady increase in the number of waves given in the home would seem to challenge the need for the professional beauty shop, statisticians say that in 1949 there were over 9000 more shops in the United States than there had been in 1942. In addition, during some of those same years, the schools of beauty culture enjoyed a boom such as they had never had before.

Cold Wave Technology

The composition and structure of hair and of keratin as a plastic material have been and are being studied intensively. Permanent waving has progressed through various stages since Nessler's invention in 1906. The use of high temperatures declined, methods changed from electrical to chemical, from machine to machineless, and from machineless to the cold wave. Waving solutions have changed from the simple alkaline solutions for electric machine methods, to reducing sulfites for the machineless method, and finally to the cold waving solutions of Willat[6] and McDonough.[7] It is interesting to note that the development of McDonough's method of altering the forces within the hair shaft by using inoffensive mercaptans at controlled pH has skyrocketed the cold permanent wave to the greatest single commercial addition to cosmetic usage.

Permanent waves cost $1,000 each in 1906 when Charles Nessler invented the process. By 1949 the cost had been so reduced that American women could afford over 50 million permanent waves.

Can we predict more progress for permanent waving? Yes—larger markets, more users, simpler techniques, more fool-proof products and processes, better raw materials, and less hair damage resulting from the process. Is it likely that there will be less permanent waving in the near future? I think not.

Will the home-kit abolish the beauty shop? I believe the home-kit will become the great builder of new customers for beauty shops. But the shops must adequately adjust their service, prices, and results to meet their competition.

New Wave Methods

Can simpler methods of waving be devised? The ultimate in permanent waving will become a fact when the follicle within the skin can be reshaped to impart the desired curvature to growing hair. No method now used even contemplates this effect.

Will we use these new techniques completely to change the character of keratin? Can we change it to

a predominantly basic or acid colloid and cause it to combine more readily with acids or bases? For example, if hair is reduced with ammonium thioglycollate and then treated with sodium chloracetate, will the result permit us to do brand new things to milady's hair? And will she like what we can do?

Improvements in Shave Preparations

A most universal use of cosmetics and cosmetic processes occurs every day to most of us males. Shaving has progressed from the weekly now-and-then of our fathers and grandfathers to a daily must for us. Fifty years ago shaving was an event. The only cosmetic employed was a strong lather of mild soap. The advent of the safety razor brought shaving into the home in a big way. Cake or bar or powdered soaps were succeeded by lather creams, and lather creams were followed by brushless. Finally, the electric razor has given strong competition to both. Even today hair is tough to cut. Can the techniques of forced swelling at medium pH using reducing agents be tolerated by the skin and follicle? If so, shaving may become much less painful or perhaps even razorless. But up to now the pH of our best depilatories[8] is a bit too high for daily use.

Aside from the beard, baldness and gray hair seem to be the man's great problems. Can we stop falling hair? Not yet as a practical commercial matter, but some work indicates promising directions for progress. More knowledge of hair growth has been gathered from the field of breeding fur-bearers than from human beings, but can we eliminate bald-headedness?—Not yet. Contributing factors are believed to include infections of scalp and follicles, restricted circulation, hormone imbalance, and diet. Are they all of the causes? Probably not.

And if we can cause hair to grow on bald heads, can we cause it not to grow on grizzly faces? Or can we cause it not to grow upon and shadow milady's upper lip? It has been said that if men *could* convert their bewhiskered faces to beardless ones they would prefer not to do so, fearing to be charged with loss of masculinity. I wonder?

Good Lipstick Base Needed

Among make-up items, lipsticks continue to depend largely on wax-supported suspensions of colors in oil. The most important class of colors is still the fluorescein group. Certainly permanency in lipsticks is still a matter of improving the performance of water solubles like brom-acid, rather than using new, novel, or revolutionary dyestuffs. And consistency is still of prime importance. Lipsticks that please some are too dry for others or bleed badly for a third group. What is needed is a temperature—and moisture—insensitive base that will act much as do the silicones, which give us lubricants of constant viscosity with changing temperature. Perhaps odor—flavor of lipsticks is a criterion of choice more important than the performance of the color.

But what of old stand-bys; creams, powders, and lotions? As these three classes are merely physical forms, it is obvious that they may lend dress to hundreds of functional products. We should begin to realize that the words are substituted for more accurately descriptive terms and really do not mean functional products in cream, lotion, or powdered form. Actually they mean cleansing and lubricating creams, face powders, astringent and tonic lotions. There is no great evidence of revolutionary developments here, and it is doubtful that such will be offered. Rather we can expect constant improvement, which will nevertheless be slow.

Rouges have become standardized as compacts. Wet or paste rouges have an occasional period of demand, but they require more care in application. Rouge colors still aim at the more or less natural. Except for stage, photography, and special lighting effects, truly "fancy" facial colors have made little progress. Eye shadows, yes; green or blue rouges may sound paradoxical, but it is not impossible for them to become the style.

Reason For Poor Treatment Market

From time to time there have been indications of more emphasis upon body "preparations." No great market in generalized products has yet been developed. This field awaits the right combination of purpose and suitably-devised products to produce the desired results. The fact that the body—especially the female body—is usually covered except at the beach is doubtless responsible for the lack of interest sufficient for the follow-through on such products. The Bikini bathing suit may have been a favorable omen, but our style oracles now tell us that American women have undressed far enough and should now cover up again. (I wonder if we ever will see again the lovely beach ensembles, including hats, parasols, cotton stockings and sandals which were *the* vogue pre-World War I?)

Style is always an important factor in cosmetic make-up. High style is probably best illustrated by the transition of liquid nail polishes from just another way to shine the nails to big business. Brilliant colored suspended pigments replaced dissolved anemic colors and this change permitted a style correlation with dress, jewels, and lipstick. Extension of manicure arts to include pedicure has taught women to wear open toed shoes and open top sandals, and incidentally boosted the sale of nail polish.

Textile Brighteners in Cosmetics

Often cosmetic art or science has borrowed from other technologies, especially that of textiles. The recent wide-spread adoption of "brighteners" by makers of cleaning and washing compositions[9] suggests that here may be a fertile field for producing new effects in the art of make-up. Colors, either of hair, skin, or products may be brightened by their use without change of hue, and we all realize that good cosmetics often are intended to produce the same result. In the early days of the Industry Advisory Committee of the Toilet Goods Section of the War Production Board, considerable comment was made about a cosmetic tooth whitener. Perhaps today tooth whitening is more of a possibility than it was eight or ten years ago. Certainly it should be possible to produce brightening powders, creams, lotions, or cleansers using fluorescent effects.

Although tooth preparations have ranked next to

soap and cleansers as the greatest volume group of cosmetic products, the recent flurries of excitement over the use of fluorides[10] and of ammoniated cleansers[11] have proved that even here, products and practices are not yet stabilized. It seems safe to predict development of improved products and improved methods of use. Perhaps more color factors can be introduced. Today, one maker offers to heighten color of the gums; tomorrow, another may incorporate "brighteners" to whiten and brighten the teeth. Perhaps means will be found to absorb upon the tooth surface, very thin layers of protecting films that will effectively combat caries, or perhaps harden the cusps (as fluorides are said to do), or inhibit the growth of acid-forming organisms, or heighten the sparkle by inclusion of "brighteners."

Certainly one delight afforded by the use of cosmetics is the appeal to the sense of smell. Essential oils and florals generally are the basis of most of our odors. Synthetics, usually synthesized natural essences, are becoming more and more important. Tremendous costs of time and effort are required to unravel the secrets of nature's sweetest scents. As a result it is seldom that an all-synthetic odor has a fine quality. Likewise it is seldom that even a fine flower oil is used unless it is combined with other odorous materials. From perfumes or alcoholic solutions of active materials to the weaker colognes and tonics, odors may be used for themselves alone. They may be very expensive, but, we are assured, they need not be expensive to be good.[12] However, a woman likes to feel that her perfume is at least a little super-duper and a bit special. The odor quality of functional cosmetic products may mean the difference between acceptance or rejection in the market. It is thus extremely important to please the nose!

During the last twenty years antiperspirants have become very popular, even with men. I venture to say that today men are rapidly learning to shave underarm and many use an antiperspirant regularly. And as better products today do not destroy or carbonize cotton fabrics, especially men's shirts, their use is expected to become as prevalent and regular as shaving.

Antiperspirant Growth

Antiperspirants suppress perspiration and, as with deodorants, discourage growth of fermenting bacteria, yeasts, and similar odor producing organisms. A further extension of this method of odor suppression is the use of growth-suppressing agents for general body cleansers, especially the use of quaternary ammonium compounds and of certain phenols that are claimed to be effective at the pH of soap and are said to be left on the skin of the user. As such additives are not irritating to the skin, they may be used regularly, incorporated into toilet cleansers or lotions or bath soaps.[13] A wide field of application and practice thus is opened for exploitation. Among other effects claimed for the antiseptic cleansers and soaps is the control of pus-forming surface bacteria. It is claimed by some that use of such a soap will perhaps prevent formation of pustules in acne, or will at least reduce the intensity of this most disturbing affliction of young people. Similarly, powders containing small amounts of such sulfa drugs as sulfathiazole are also said to be of value in cases of acne.

The number of cosmetics and the methods of their use is legion. They are designed to affect color, odor, texture, form or arrangement, or perhaps they may be cleansers, protectors, astringents or the like; and they may be used for style, comfort or hygiene.

Essentially cosmetic art is an appeal to the emotions. The sensory pathways to our conscious minds are sight and smell. Occasionally—more intimately—touch and taste become involved. Perhaps hearing is the only sense completely omitted from direct cosmetic stimuli. Will cosmetic art and science some day accomplish an appeal to the sense of hearing (and I do not mean Radio Advertising)?

The area today includes "sight and smell" as the major responses, while taste and touch perform minor roles. Another dimension involves the person stimulated. Is the cosmetic worn to please the wearer or is it worn to please others? Preparations may thus be classified as subjective or objective, but often we find that the subjective reason for use is based upon an imagined objective effect.

But what of instrumentation and commensuration in cosmetics? Perhaps here we have the key to unlock these rooms now closed to us; perhaps we can render much more of our cosmetic service quantitative. And perhaps by using the quantitative tool we can develop much more cosmetic science. In particular one new tool is offered in the use of tracer elements. I suggest no more here than that tracer compounds promise much information for the future instead of past conjecture. And closer study using such tools as infrared absorption spectra may also help. We must not forget however, that no matter how good the visible spectrum monochromators have been, they have not yet permitted us to do color matching instrumentally. It will be a long time before any instrumentally derived formulation will be certain to please the cosmetic user.

It is not yet possible to replace the nose with any other instrument. It is not possible to describe an odor so exactly that it may be reconstructed from a written description (I do not mean a compositional formula). And odors can be classified only by reference to standards arbitrarily chosen from common known types or compounds. We have not yet seen the first gray light of dawn!

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Impulse Super Market Buying

THE value of point of sale display material and attractive packaging is emphasized by a survey conducted by E. I. duPont deNemours & Co. which showed that two-thirds of super market purchases are based on decisions made while shopping in the store. Of all items bought 38.4 per cent were unplanned (impulse buying); 26.7 per cent were generally planned; 1.5 per cent were substitutes and 33.4 per cent were definitely planned. The report concludes that people shop with an open mind for what looks good. Managers of super markets therefore should stock products which by themselves influence store decisions to buy.

Sources for New Product Ideas

A GOOD first step for manufacturers actively seeking new products is to prepare a list of sources which can yield practical possibilities. The following check list includes most of the major sources for all types of new product ideas.

I. Company staff, record, experience

Research staffs, sales staff, market research department, sales reports and other records, employee suggestions, customer suggestions, inquiries, and complaints.

II. Distributors

Brokers, factory distributors (manufacturers' agents), wholesalers or jobbers, retailers.

III. Competitors

Customers of competitors, competitors' products, mail order catalogs, exhibits and trade shows, foreign products.

IV. Miscellaneous

Inventors, patent attorneys and brokers, firms going out of business, manufacturers of parts and accessories, suggestions from public (or industry) as result of advertising, university and institute laboratories, commercial laboratories, industrial consultants, management engineers, product engineers, market research agencies, advertising agencies, trade associations—executives and laboratory personnel, trade magazine writers and editors.

V. Government agencies

Government agencies and publications are important sources of ideas for new products. Some of the chief Federal Government agencies and publications helpful in this respect are described here.

(1) United States Patent Office, Department of Commerce:
(a) Register of patents available for licensing or sale.—This reservoir of available patents is a good source of new product ideas. Some patents on the Register may be used with the consent of the owners or on payment of royalty; many may be purchased outright.
(b) Government-owned patents.—The Federal Government develops and patents many processes and products. Such patents are available on nonexclusive royalty free licenses and are announced in periodic listings issued by the Patent Office.
(c) Dedicated patents.—No license to make, use or sell is required to use a dedicated patent. No royalty need be paid, and no formality is required to make full use of the patent.
NOTE.—For information about (a), (b), and (c) write to United States Patent Office, Washington 25, D. C.
(d) Official Gazette, United States Patent Office.—This weekly publication of the Patent Office, an important source of ideas for new products, lists patents added to the Register of Patents Available for Licensing or Sale; also patents granted, including designs and reissues.
(2) Office of Technical Services, Department of Commerce: This Office has a record of Government originated and enemy-acquired research which may suggest new product possibilities. Lists of acquisitions appear in the Bibliography of Scientific and Industrial Reports.
(3) Other sources:

Various other Federal agencies and state agencies may suggest new product possibilities in certain fields. For example, the research findings of the laboratories of the Department of Agriculture and of the state universities have suggested new product possibilities in many instances.
(4) Publications:

Publications of some Government agencies also are of value in suggesting product ideas which are new to a specific company. Examples of Department of Commerce publications useful in this way are: A Source of New Product Possibilities for Manufacturers; Standard Commodity Classification, volumes 1 and 2; and Statistical Classification of Domestic and Foreign Commodities.—*U.S. Dept. of Commerce.*

Myrcene from Beta Pinene

A PROCESS for producing myrcene, a useful chemical intermediate, from beta-pinene, a component of gum turpentine, has been developed in naval stores research at the Southern Regional Research Laboratory in New Orleans, La.

This process, which yields increased quantitites and a higher quality of myrcene, is described in U. S. Patent No. 2,507,546, granted recently to Leo A. Goldblatt and Theodore R. Savich. The Commissioner of Patents, Washington 25, D.C., will supply copies at 25 cents each. Licenses to use the patent on a royalty-free, non-exclusive basis, may be obtained by applying to the U. S. Department of Agriculture, Bureau of Agricultural and Industrial Chemistry, Washington 25, D.C.

Myrcene is a polyolefin with three double bonds, two of which are in terminal conjugation. It can be substituted for butadiene or isoprene in the manufacture of chemical rubber, reacted with maleic anhydride or other dibasic acids to form resins, or it can be hydrated to produce polyhydric alcohols suitable for use in perfume bases. Other uses are well known in the chemical industry.

The new method of isomerizing beta-pinene to myrcene is based on the discovery that much higher yields and a better quality product can be obtained at temperatures considerably above those ordinarily used, provided the vapor is subjected to such temperatures very briefly. High quality myrcene representing as much as 85 per cent of the beta-pinene used has been produced by subjecting vapors of beta-pinene to a temperature above 700 degrees C. for less than one-hundredth up to about a tenth of a second. The procedure is suitable for use in a small reaction system.—*E. L Patton*

U. S. Import Duties

IMPORT duties and customs provisions in effect July 1, 1950 are fully covered in the 1950 edition of "United States Import Duties." The first section gives a tabular presentation of all U. S. rates of duty and tariff descriptions of dutiable and duty-free commodities under the Tariff Act of 1930. The second section contains the special and administrative provisions of that act as amended down to July 1. Copies may be had from the Government Printing Office, Washington 25, D. C., for $2 per copy.

Properties of Hydroxycitronellal

Chemical properties, physical constants, manufacture, evaluation and anlysis of this important perfumery synthetic which imparts a floral note to perfumes that cannot otherwise be obtained

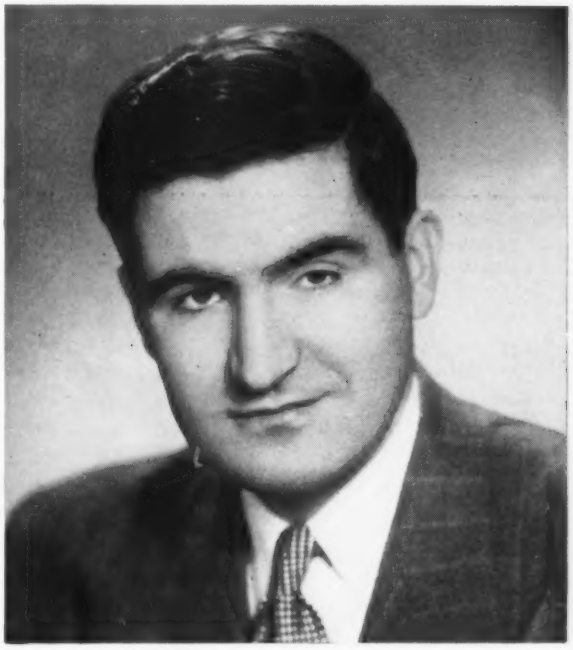
PAUL Z. BEDOUKIAN, Ph.D.*

HYDROXYCITRONELLAL has made it possible to acurately reproduce the odor of muguet and by the addition of traces to other floral ottos has assisted in imitating faithfully perfumes which had previously been comparatively crude, Willam A. Poucher, Ph.C. has pointed out. Furthermore owing to its high boiling point it is a fixative of no mean order and probably tops the list of synthetics of this class.

Accordingly to perfumers the following study of hydroxycitronellal from the forthcoming book "Perfumery Synthetics and Isolates" by Paul Z. Bedoukian, Ph.D. will be of much interest and value. The chapter from Dr. Bedoukian's book follows:

Hydroxycitronellal has not been found in nature and is entirely a development of the laboratory. It duplicates with markable fidelity the odor of lily of the valley. When blended with other compounds, it imparts a floral note to perfumes which cannot otherwise be obtained.

Unlike many other perfumery synthetics, hydroxycitronellal has a rather romantic history. Although the story of its discovery is hidden in the archives of an undisclosed laboratory, it is known that its presence in perfume was observed in the early part of this century. The composition of hydroxycitronellal remained a trade secret for many years, and in this connection a very interesting story is told by Dr. Martin Hill Ittner[1] in his Perkin Medal address. It appears that a large soap company was importing from France an important perfume oil which possessed an odor that could not be duplicated by any of the known perfumery chemicals. Shortly after the outbreak of World War I it was found that the oil no longer had the desired note, and the reason soon became apparent. The compound normally contained an ingredient which was manufactured in Germany and was not available because of the war. The problem was placed in the hands of Dr. E. Emmet Reid who succeeded in determining the nature of this ingredient and in developing a method for its manufacture. It was thus finally produced in an American factory, although the process was kept secret for obvious reasons. This compound was hydroxycitronellal, and to this day it remains one of the most



Dr. Paul Bedoukian

floral synthetics manufactured on a large scale.

The trade gradually became aware of the existence of hydroxycitronellal, as indicated by various articles which appeared in the literature in the 1920's.[2]

Burger[3] gave the constitution as one of the two forms, I, II, and reported a method of manufacture which involved blocking of the aldehydic group with bisulfite and then hydroxylating the double bond with sulfuric acid.

It is interesting to note that as early as 1905 the patent literature reported a method of hydroxylating terpenes by treating the bisulfite compounds with certain chemicals. It was stated,[4] for instance, that hydroxycarvone and hydroxycitronellal could be prepared in this manner. The value of hydroxycitronellal, however, was not realized from this patent disclosure.

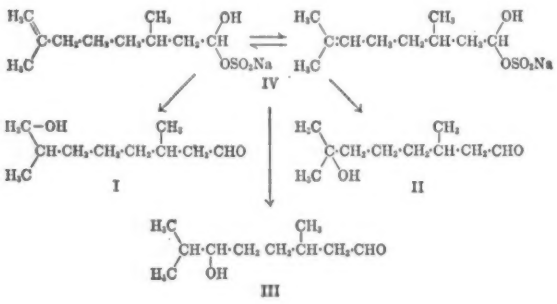
In a review on hydroxycitronellal, Sornet[5] indicated the difficulty of manufacturing this chemical and at a later date gave detailed procedures for the preparation

* Compagnie Parento. Chapter from forthcoming book *Perfumery—Synthetics and Isolates.*

of the acetals which also possess very floral odors and are valuable in soap compounds.

Chemical Properties

Some doubt still exists regarding the correct structure of hydroxycitronellal. Three structures have been proposed. Burger[3] suggests either I or II, and the patent literature[1] discloses the possibility of structure III. The bisulfite compound of citronellal (IV) on treatment with sulfuric acid followed by hydrolysis may give I, II, or III. In view of the fact that the tertiary carbon atom hydroxylates with greater ease than the



secondary carbon atom, structure I is the most probable one.

In this connection, it is interesting to note a report by Sornet[8] who prepared hydroxycitronellal by three methods and observed that the characteristic sweet odor was present in only one preparation. The author is of the opinion that the compound containing the tertiary hydroxyl group is odoriferous, whereas the others are odorless. He also reports differences in physical properties of these compounds, such as viscosity and boiling point.

Sabetay[9] favors constitution II on the basis of formulation experiments on hydroxycitronellol. This view is supported by additional experimental evidence. The alcohol was also obtained by hydrogenation over Raney nickel catalyst and further oxidized to hydryxycitronellic acid by the use of permanganate in acetone solution.

Hydroxycitronellal undergoes the Cannizzaro reaction when treated with potassium benzylate.[10] On hydrolysis of the resultant ester, hydroxycitronellol is obtained in rather poor yields.

It is well known that when aldehydes are added to alcohols, a reaction often takes place as evidenced by a rise in temperature, changes in refractive indices, and other physical changes which result from the formation of hemiacetals. Since hydroxycitronellal contains both the hydroxyl and aldehyde groupings, it is possible that it exists as an inner hemiacetal either in monomolecular or dimolecular form. Ultraviolet absorption spectra studies, however, show the absence of the hemiacetal form, since, the selective band of the carbonyl group of hydroxycitronellal is practically the same as that of citronellal.[11] On the other hand, when hydroxycitronellal is added to methyl alcohol, there is strong evidence of hemiacetal formation.

Because of its sensitivity to both alkalies and acids, hydroxycitronellal must be used with great care in perfume compositions. The dimethyl acetal is sometimes used in soap compositions, but its odor is considerably weaker than that of the free aldehyde. Aldehydes react with alcohols to form hemiacetals which are much more stable toward oxidation. This property of hydroxycitronellal was taken advantage of in a patent which claims that the addition of 25 per cent or more of hydroxycitronellol to hydroxycitronellal produces a hemiacetal which is more stable than the aldehyde alone and has a lily of the valley odor. The manufacture of hydroxycitronellol and its use as a perfume fixative is described in another patent.

Physical Constants

Hydroxycitronellal is a colorless, viscous liquid possessing a sweet, lily-of-the-valley odor. Both its dimethyl acetal and its alcohol are used to a lesser extent in the perfume industry, but their odor is considerably weaker than that of hydroxycitronellal.

The following constants have been reported for these compounds.

	B.p., °C.	d_4^t	n_D^{20}
Hydroxycitronellal	103 (3 mm.)	0.922^{20}	1.4494
Hydroxycitronellal dimethylacetal	131.3 (12 mm.)	0.931^{20}	1.4419
Hydroxycitronellol	140.0 (4 mm.)	0.930^{25}	1.460

Semicarbazone m.p. °C., 96.
2,4-Dinitrophenylhydrazone m.p. °C., 85.

The Essential Oil Association of the U. S. A. has adopted the following constants for commercial hydroxycitronellal:

Color—Viscous colorless liquid having a sweet odor of the lily type
Specific gravity @ 15°—0.925 to 0.930
Optical rotation @ 25°—Depends upon the optical activity of raw material. When prepared from the Java type +9 to +10.5; when prepared from Eucalyptus Citriodora type +0.5 to −0.5
Boiling range—Neighborhood of 100° at 2 mm.
Solubility in Alcohol—Miscible in all proportions of 60% alcohol; soluble in 1½ or more volumes of 50% alcohol

Methods of Manufacture

Methods for the manufacture of hydroxycitronellal were eventually reported in the chemical and patent literature. A detailed description of its preparation was published by Labaune[14] in 1939. According to this article, first the bisulfite compound of citronellal is prepared in the usual manner at temperatures below 10° C. and purified by washing with organic solvents. It is then hydrated by adding the bisulfite compound in powder form to sulfuric acid solution of 40-60 per cent strength at temperatures of -5° to 0° C. Hydration takes place very slowly and the process lasts five to twelve hours. During this reaction, considerable side reactions take place, such as liberation of some of the citronellal, cyclization of citronellal to isopulegol, etc. These by-products are removed by washing the solution with solvents. Finally, the hydroxylated bisulfite compound is decomposed with sodium carbonate to give the free hydroxycitronellal.

These steps are described in greater detail in the pat-

ent literature. The following procedure is disclosed in a recent patent:

"To 192 parts technical citronellal (80% citronellal) add under vigorous agitation 110 parts of sodium bisulfite in the form of a 30% solution (obtained by dissolving 110 parts of sodium bisulfite in 257 parts of water). The bisulfite compound separates out as a thick whitish paste. The reaction mass is now filtered and the filter cake is washed repeatedly with a benzol-toluol mixture (50:50) until substantially all the residual water has been replaced by hydrocarbon. This may require about 10 washings with about 100 parts of benzol-toluol in each washing. The washed paste weighs about 600–650 parts and contains 260–270 parts of citronellal bisulfiite compound. The paste is ready to be hydrated, and for this purpose 200 to 1000 parts of 50% sulfuric acid are added to it while maintaining the mass at a temperature below 0° C. The mass is now neutralized slowly with 10% aqueous sodium hydroxide solution and additional 400–800 parts of 10% aqueous sodium hydroxide are stirred into the mass while maintaining the latter at below room temperature to effect decomposition of the bisulfite compound. The hydroxycitronellal which thus becomes liberated is contained in the hydrocarbon layer and may be recovered by distilling off the solvent and fractionating the crude hydroxycitronellal. The hydroxycitronellal is of high purity and is obtained with an excellent yield.

Another patent[16] reports a substantial increase in yields by using a sodium sulfite-sodium bicarbonate mixture to obtain the labile hydrosulfonic acid derivative by citronellal substantially free from the stable hydrosulfonic derivative which does not yield hydroxycitronellal. The process is claimed to give higher yields in a shorter period of time. The procedure is as follows:

"A solution of Na_2SO_3-$NaHCO_3$ was prepared by dissolving 250 grams Na_2SO_3 (100%) and 170 grams of $NaHCO_3$ in 1810 grams distilled water. The solution was filtered and 155 grams 100% citronellal was added. The reaction mixture was stirred vigorously for two hours and the precipitated bisulfite addition compound filtered off. A total of 1800 grams of filtrate was recovered which indicated 180 grams. Na_2CO_3 present by titration. The precipitate was redissolved in 4500 cc. water and then under a low vacuum of 500 to 600 mm. 116 cc. concentrated hydrochloric acid was added over a period of three quarters of an hour. The solution was allowed to stand for two days at 20–25°. The hydration was then stopped by adding 280 cc. of filtrate. The solution was then evaporated at a maximum temperature of 30–35° until two-thirds of the water had been evaporated. A total of 46 grams of oil separated at this point. It was separated by extraction. The hydroxycitronellal was liberated by adding 126 cc. of a 24% solution of NaOH to the evaporated solution in the presence of 185 cc. toluol. The total volume of solvent and extracted hydroxycitronellal amounted to 303 cc. The extract was washed with 3–25 cc. portions of water. The solvent was then distilled off in the presence of 1 gram of added $CaCO_3$ at 108–109° under a pressure of 3 mm. A total of 100 grams of hydroxycitronellal was obtained. This indicated a yield of approximately 64%."

The dimethyl acetal of hydroxycitronellal can be prepared with good yields in the following manner:[17]

Ten grams of anhydrous hydrogen chloride gas (dried by bubbling through sulfuric acid) are passed into 1000 grams of absolute methyl alcohol and 500 grams of redistilled hydroxycitronellal are then added to the mixture with constant shaking and cooling. The mixture is allowed to stand at room temperature for a period of 24 hours. It is made alkaline by the addition of dilute sodium hydroxide solution and most of the methyl alcohol removed by distillation under reduced pressures. The resultant oil is extracted with benzene or any other suitable solvent and washed free of alkali. The small proportion of unreacted hydroxycitronellal is removed by shaking either with barium salt of sulfanilic acid or with bisulfite solution. The remaining mixture of the solvent and acetal is washed with water, dried, and subjected to fractional distillation. The yield of acetal is of the order of 75-85 per cent, depending upon the purity of the starting materials.

The ethyl acetal can be prepared in the same manner, but it is rarely used for perfumery purposes because of its weaker odor.

Evaluation and Analysis

Like many other perfumery synthetics, hydroxycitronellal is important primarily because of its odor. For this reason, by-products formed during its manufacture, such as terpenes, citronellal, isopulegol, polymerization products, etc., must be completely removed from perfumery grade hydroxycitronellal.

The Essential Oil Association of the U. S. A. recommends the following well-known procedure for the detection of these impurities. One hundred ml. of a fresh 30 per cent sodium bisulfite solution (by weight) is made and to this 3.75 ml. of 10 per cent sodium carbonate solution is added in order to cut down the free sulfur dioxide present. If necessary, the solution can be filtered to clarify it. One ml. of hydroxycitronellal added to 18 ml. of this bisulfite solution should give a clear liquid after shaking for one minute. Turbidity indicates the presence of terpenes or polymerization products. Since the bisulfite compound of hydroxycitronellal is odorless, impurities can be detected by their odor. A minty note, for example, indicates the presence of isopulegol.

The aldehyde content of a sample of hydroxycitronellal is best estimated by the modified hydroxylamine procedure of Stillman-Reed (see Determination of Aldehydes), the titration being carried out after standing fifteen minutes. The aldehyde content should be not less than 95 per cent according to Essential Oil Association specifications.

Trade and Commerce

The United States Tariff Commission has published the following statistics for the production and sales of hydroxycitronellal.

Year	*Production, Pounds*	*Unit Value, Dollars*	*Number of Producers Listed*
1941	125,300	3.67	8
1942	90,400	6.07	8
1946	55,200	15.86	5
1947	53,200	8.26	10
1948	66,000	6.41	8

Hydroxycitronellal tends to polymerize on standing for a prolonged period exposed to air. It should be packed preferably in glass or aluminum containers. Tin-lined containers may also be used but galvanized drums should be avoided.

It is best to store hydroxycitronellal in well-filled, dark-colored, glass containers in a cool place protected from light.

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Aluminum Stearate as a Thickener

THE use of aluminum stearate to thicken paints, lacquers, mineral oils and in the lubricating oil industry is well known. More recently aluminum stearate has been used with the vegetable oil in the place of oil injections of penicillin.

The author describes some of his experiments in which he used 10 per cent of aluminum stearate dissolved in eucalyptus oil with heat which resulted in the formation of a thick gel at 75 C. with good stability.

The experiment was repeated using perfume oils with similar results. Further experiments were made using 20 parts eucalyptus oil, 2 parts aluminum stearate and soft paraffin to 100 parts to determine the melting point. The results were very gratifying.

A particular brand of aluminum stearate was used by the author, and since there are many types of aluminum stearate on the market, the exact type must be used for reproducible results.—*John Rae in Manufacturing Chemist. 21, No. 5, 205, 1950.*

Better Business Practices

WHEN all is said and done the great moving spirit of America is the spirit of business, the spirit of competition. Throughout modern history there has been a constant and an organized attempt to submerge business, to belittle it, to keep it in its place, so to speak. But though the plans have been many, none has worked for long. America was built on business; and business, both in war and peace, has always asserted itself and taken a leading position in the activities of the time.

Nevertheless the detractors of business have had some success in fostering an attitude of cynicism toward business, and frequently this provides the opportunity to launch another effort to hamstring it. Business, itself, would be the first to admit that, because of some few who are presumably engaged in it and who take unfair advantage of the public in their transactions, at times it is open to attack. Business itself likewise would readily admit that because of the highly competitive nature of trade and commerce and production and distribution abuses are many times tempting and easy.

Business has not stood idly by in the face of these weaknesses and temptations. With the increasing specialization of the individual in an age when it is not possible for everyone to know all the ins and outs of business practices, or to be able to recognize all the reprehensible ones from the sound ones, business has taken it upon itself to set up certain standards of conduct. This activity is expressed through the growing numbers of Better Business Bureaus throughout the nation.

What is the aim of the Better Business Bureaus? It is, simply, the protection of the general public and of responsible business against abusive business practices which destroy the confidence of people in our enterprise system. How widely does business, itself, believe in this aim? As of 1949 there were 60,000 separate business firms with 38 million employees contributing more than two million dollars annually for the support of the bureaus. That bespeaks the interest and confidence of enlightened business in the project.—*Columbus Dispatch*

Mail Selling Secrets

THE way to get started in the mail order business says Witt N. Schultz in his latest book "How You Can Make More Money by Mail" is summarized as follows:

1. Find a new and unusual product
2. Buy it at the best price you can
3. Advertise it in a publication that goes to the most people who would be interested in that product or
4. Make a mailing on the product to logical users.

Referring to product selection he suggests the following questions:

"1. Is it new? Unusual?

"2. Is it made well? Guaranteed? A value?

"3. Does it fill a real need?

"4. Is it easy to ship by mail or by freight? Not easily breakable?

"5. Can you buy it for at least 50 per cent off list price? (That is, if it retails for $1, can you buy it for 50¢?)"

Packaging, Key to Merchandising

PACKAGING is the connecting link that gives sales impact and moves merchandise out of stores ahead of competition according to James Nash, packaging designer who addressed the National Confectioners' Assn. It should be the key to the entire program of merchandising and sales promotion.

After drawing attention to the importance of brand identification and remembrance value, Mr. Nash emphasized that the brand name, trademark or symbol should provide quick identification. That identification, he said, should be "so individual that it can be reproduced in any color . . . or in black and white, in any size and in any place, and still be recognized."

Mr. Nash warned against too many bright colors in a package that create confusion and are costly. He advised advertisers to use package and brand identification as the focal point of the sales campaign to reap full benefits from the advertising campaign. Stressing brand identification, he said "strong brand identification, well promoted, becomes insurance for acceptance."

The severest test for a trademark, according to Mr. Nash, is a television showing. He told the convention that a design which appears clear and sharp on TV will show up well anywhere.

Are Salesgirls Sacred?

A satirical review of practices developed in the lush years to win the help of salesgirls . . . What this means to the manufacturer and how the picture may be changed to benefit all.

JILL JESSEE*

A STRANGE mythology has grown up around the salesgirl, specifically the cosmetic salesgirl. She occupies a unique position in our hierarchy in which her power is glorified, her praises hymned. She is imagined as a half-vengeful goddess who must be placated with many offerings and who must be entreated gently to answer your prayers.

Unwritten Rules For Dealing With Salesgirls

Certain unwritten rules and precepts have been laid down in this new form of ownership. For one thing, you must never speak harshly to this favor-bestowing deity. No matter what her offenses, don't bring any charges. If you do, she will sulk and refuse to sell your merchandise. She may even grow hysterical and bring more serious counter-charges against you. And, if you have aggravated sufficient revenge, she will turn her efforts to another line and leave you shivering in a sale-less world.

Another rigid rule is that you must speak to a salesgirl in the most elementary language. If it gets much more elementary, you will be reduced to sign language. But you must remember that she has a special fondness for monosyllables and definite aversion to dictionaries. Apparently, she has never gone to school like human beings and is congenitally disinclined toward reading or simple study.

To keep her in a beatific mood, ask her frequently for suggestions about your line—its products, its packaging, its sales appeal. But this, it is understood, is only a gesture—something like placing flowers on her altar. If she deigns to give you the suggestions for which you are always pleading, it is part of the ritual for you to circumvent them. You apologize. She forgives you. Then, you're both back on the original amiable basis.

The Salesgirl Must Be Humored

She is temperamental and must be allowed her own individual expression in all things. Her writing may be illegible, her spelling execrable, her sales reports late and inaccurate, her indifference nerve-racking, her methods of selling ineffectual. Still, this is the cross you must bear!

Now, really, how silly can business people get? It's true that we haven't recovered from those mad war years when sales were zooming and salesgirls were not to be had for love or money and both were lavished without restraint. Standards for salesgirls reached a new low rather than to have a line uncovered for weeks and even months. It was then that this strange worship started, but it is stranger still that it should be perpetuated for so long. Among manufacturers and buyers, there are low murmurings of discontent, but no one dares to speak loud enough for the salesgirl to hear.

Manufacturers Expected To Train Girls

Buyers look to manufacturers for sales training as a panacea for ailing salesmanship. But if it's the printed word, you can only hope desperately that the salesgirl will read and understand and obey. If it's a lecture, you can only hope that the unions or the rules of the store will permit you to give it. Still, this trend is constructive, and the need for sales training has become almost an "ache" in the minds of employers.

No one disputes the fact that the salesgirl is tremendously vital to the welfare of the cosmetic industry, and her importance cannot be minimized. But why must salesgirls be of such inferior material and why are they held to so little account for their actions? A traveling representative for one of the manufacturers was asked recently how many outstanding salesgirls there are in the average cosmetic department. Her first reaction was to say, "None." But on further thought, she could recall one salesgirl on the West Coast who had the real salesgirl spirit and who might, in time, be a "finished" product. That's a very sad commentary!

Two Courses of Action Open

It would seem that there are two courses of action open. First of all, make every possible effort to improve the quality of the salesgirl herself. Set your sights a little higher, then a little higher still. When the cosmetic industry regains the position it once had of demanding the "cream," girls will take greater pride in selling cosmetics. Cosmetic selling should be given more favorable publicity through schools and vocational guidance groups. It should have the prestige of being a profession and a career, one that has higher rungs to which the ambitious can climb. All of this is a very slow and gradual process and not to be accomplished overnight.

Meantime, certainly the most flagrantly inefficient

* Consultant. Formerly promotion expert for Lentheric, Inc.

and disinterested salesgirls can be eliminated which, in itself, will have a stimulating influence. More field supervision, more visits from the home office, more demanding requirements would help. Stop feeling that salesgirls must be pampered, and treat them like any other employee. Reward them for achievement, upbraid them for delinquencies! It's only human nature not to live up to any more than is expected of one.

More Vigorous Sales Training

Second, vigorous sales training should be unleashed on all who call themselves salesgirls. It will vastly improve the ability of the alert and ambitious salesgirl, and it may even do something to the more slothful, even if it's only to discourage her from pursuing a career for which she is unfitted. Pedagogy no longer requires talking down to the level of the most stupid student in the class. It's better to be above the heads of the few than to make the more intelligent ones suffer.

Bemoaning the salesgirl, or cowering to her as to an idol, will not help her nor help your business. The time is certainly long past due when some action is called for—definite and constructive action to improve the salesgirls that "are." Then it is wise to seek for salesgirl replacements who will be more of a credit to your line and to the cosmetic industry as a whole.

Sound Progress

HIGH-INTENSITY sound can cause a fearsome agitation in liquids, but few industrial jobs have yet been fully developed, despite the fact that sound will wash cloths, "age" whisky, and perform other wonders on a laboratory scale. Fairly efficient sirens have been used to generate sound in gases and thus free them from dust and fogs, but until recently it has been difficult to generate enough sound in liquids to bring about these wonders on a reasonable scale. Recently, however, mechanical sound generators have been built to full scale for various potential industrial applications, and a new ceramic material, barium titanate, gives real promise of advancing the technique.

Barium titanate is intended as a replacement for the piezoelectric crystals, such as quartz, which have the property of expanding and contracting as a alternating electric potential is applied to them and, by this vibration, generating sound waves. Crystal plates of natural and synthetic quartz and of several other materials have been used, but the plates are small in size, expensive, and fragile. Barium titanate is not a single crystal, but a ceramic material which can be molded to any shape and made into large sizes. It also can convert a large amount of power per unit area into sound, and may be used in the same frequency range as piezoelectric devices.

Much of the efficacy of sound in speeding chemical and physical changes within liquids is due to cavitation, the formation and violent collapse of tiny vacuoles or bubbles as the sound wave passes over. This involves forces up to several hundred thousand times gravity. This small-scale tumult can mix materials so intimately that they react far more quickly than they otherwise would. It can also destroy the surface of the sound-generating equipment unless proper precautions are taken.

The fact that considerable skill and experience are needed for sonic research has tended to limit its investigation by the industries which might use sound and to keep the research in the hands of specialists with limited funds and limited familiarity with possible applications in industry. Several companies now offer sound-generating equipment for laboratories and pilot plants. With this equipment possible users can determine whether a problem is suited to ultrasonic techniques and whether a custom-built production unit or a large-scale trial unit is justified.—*Arthur C. Little Inc.*

Present Line Versus New Product

MANY manufacturers have gone ahead with new product programs only to learn that they would have been better off had they concentrated those extra dollars and efforts in developing their present lines. So, before moving into a product development program perhaps it is well, at least, to check and see if such steps as the following may not be the best means of increasing company profits:

1. Find new uses for established products and advertise such uses to increase sales.
2. Find new markets—concentrate on areas or types of customers where coverage is low in relation to sales potential.
3. Improve appearance of product or product line.
4. Improve styling of product or product line.
5. Improve packaging.
6. Improve display material such as counter cards, streamers, exhibits, mechanical demonstrators, movies, slide films, and cutaways.
7. Simplify product as means of reducing sales price and opening new markets.
8. Train salesmen and dealers to do a better job of selling.
9. Find unprofitable customers and try to improve their profitability. In some cases, it may be well to eliminate unprofitable customers.
10. Find more profitable customers and concentrate greater sales efforts on such outlets.
11. Weed out unprofitable products (must be watched carefully so as not to destroy line completeness; frequently it is possible to combine models, leave out tricky features, and end up with a shorter but sufficient line).—*Gustav E. Larson*

Cosmetic Excise Tax Collections

Tax collections for the period ending June, 1950 are:

	1950	1949	1948
January	$ 9,836,052	$ 9,648,063	$10,371,512
February	11,654,681	12,984,776	12,290,714
March	6,811,063	6,796,181	6,927,991
April	6,985,099	6,913,884	6,927,991
May	8,316,993	6,983,445	6,660,851
June	8,136,742	7,625,450	7,283,509
July		6,776,881	7,332,070
August		7,807,221	7,506,518
September		6,859,446	6,890,757
October		6,760,409	6,335,804
November		7,738,779	6,872,541
December		7,312,007	8,079,746

Florida Persian Seedless Lime Oil

The coldpressed oil is superior to the distilled oil but is higher in price, so both are produced . . . Relationship between the physical and chemical characteristics of both oils

J. W. KESTERSON*

THE complete utilization of the peel from the Persian† limes (*Citrus aurantifolia,* Swingle) canned in Florida involves the recovery of expressed and distilled oils. The Persian or seedless lime, which represents the bulk of the present commercial crop in Florida, should not be confused with the Key or seedy lime produced in the southern part of the state. The Persian lime is approximately twice the size of the Key (or West Indian) lime. Today most of the limes grown in Florida are sold on the fresh fruit market. However, surplus and cull fruit are available for juice and oil recovery. The cull fruit is of good quality but unsuitable for shipment as fresh fruit due to size and grade restrictions.

The primary product resulting from the processing of this fruit is unconcentrated canned juice. The oil found in the peel of the fruit is the first product recovered from the cannery refuse and both coldpressed and distilled lime oils are obtained. The coldpressed oil is considered superior to the distilled oil, but because of the relatively high price of the distilled oil it becomes economically feasible to recover both types of oil.

Guenther[2] has discovered Florida's lime industry and reports a 0.06 percent yield of coldpressed oil and a 0.15 percent yield of distilled oil from Persian limes. Atkins, Wiederhold, and Heid[1] extracted oil from cull limes by using both a screw and a Pipkin[6] press and the centrifugalization of lime oil emulsions has been discussed by Moore, Atkins, and Wiederhold.[5] Guenther[3] in a recent series of articles reviewed methods of oil extraction used in the United States and in foreign countries, and states that the method of oil extraction and the amount of carrier water used in a process affect the quality of the oil.

The object of this paper is to present the methods of commercial production used in Florida during the 1948 season; also, to show the relationship found between the physical and chemical characteristics of coldpressed and distilled oils and such factors as methods of extraction, methods of processing, fruit maturity and others.

Lime oil was expressed with two different types of commercial equipment in Florida during the 1948 season. These were the Pipkin roll and Fraser-Brace extractor. The general processing procedure used after the extraction of the oil from the peel was similar in both processes and each method of extraction gave an emulsion of oil and water. The oil was separated centrifugally from the equeous phase by passing the emulsion through a Sharples centrifuge. Following separation the oil was stored at 32°-40°F. and during this winterizing treatment undesirable waxy materials separated from the oil and settled out. The clear oil was decanted into stainless steel or tin-dipped containers and maintained at a storage temperature of 40°F. Air was excluded from the container to prevent deterioration. Exclusion of air was accomplished either by filling the container full of oil or by displacement of the air with carbon dioxide.

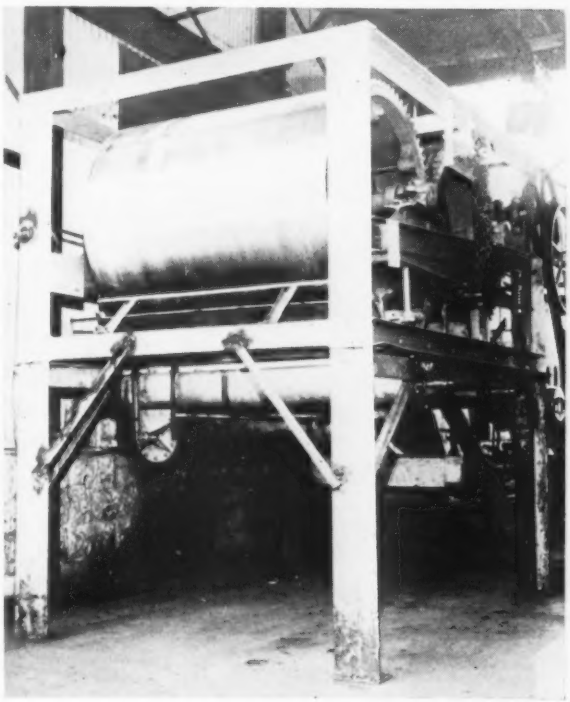


Fig. 1.—Pipkin roll (Photograph courtesy Essential Oil Producers, Inc., Dunedin, Florida).

Pipkin Roll Method of Extraction

A Pipkin roll[6] is shown in Fig. 1. In this method the oil is expressed by passing peel of the fruit between two striated rollers of stainless steel that turn in oppo-

* Citrus Experiment Station, Lake Alfred, Florida
† Persian lime synonymous with Tahiti lime.

Date	Type of Extractor	Specific Gravity 20°C/20°C	Refractive Refractive Index N_D^{20}	Refractive Index of 10% Distillate N_D^{20}	Difference	Optical Rotation α_D^{20}	Optical Rotation of 10% Distillate $_D^{20}$	Difference	Aldehyde Content % (Citral)	Ester Content %	Evaporation Residue %
7-15-48	Pipkin Roll	0.8810	1.4847	1.4730	0.0117	+40.60	+47.60	7.00	5.52	7.98	13.36
7-24-48	Pipkin Roll	0.8798	1.4842	1.4730	0.0112	+41.00	+48.20	7.20	4.86	7.42	12.95
8-6-48	Pipkin Roll	0.8799	1.4845	1.4729	0.0116	+41.52	+49.24	7.72	4.95	4.95	14.03
8-9-48	Pipkin Roll	0.8823	1.4853	1.4731	0.0122	+41.80	+49.24	7.44	5.35	8.13	13.44
8-13-48	Pipkin Roll	0.8816	1.4851	1.4730	0.0121	+39.76	+48.84	9.08	3.66	8.08	14.67
8-20-48	Pipkin Roll	0.8821	1.4853	1.4730	0.0123	+38.60	+48.48	9.88	5.19	8.03	13.97
9-4-48	Pipkin Roll	0.8780	1.4839	1.4729	0.0110	+41.12	+48.72	7.60	5.40	7.46	12.39
9-11-48	Pipkin Roll	0.8811	1.4846	1.4730	0.0116	+42.12	+49.92	7.80	6.14	7.11	12.71
9-28-48	Pipkin Roll	0.8807	1.4847	1.4732	0.0115	+44.08	+52.20	8.12	5.65	7.66	13.04
10-4-48	Fraser-Brace	0.8792	1.4849	1.4732	0.0117	+ *	+54.60	-	4.46	7.28	13.23
10-13-48	Fraser-Brace	0.8786	1.4844	1.4734	0.0110	*	+51.80	-	5.20	7.11	12.62
10-16-48	Fraser-Brace	0.8796	1.4847	1.4725	0.0122	*	+50.52	-	5.17	6.78	13.04
10-23-48	Fraser-Brace	0.8789	1.4841	1.4724	0.0117	*	+49.32	-	4.74	7.02	13.24
10-16-48	Pipkin Roll	0.8777	1.4837	1.4731	0.0106	+43.36	+51.12	7.76	5.50	6.80	11.88
10-23-48	Pipkin Roll	0.8769	1.4834	1.4731	0.0103	+43.00	+49.20	6.20	5.83	7.15	11.01

* - Too dark to read in 25 mm. tube.

Table 1. The physical and chemical properties of coldpressed Persian lime oils produced in Florida during the 1948 season.

site directions. The distance between the two rollers is adjusted so that the pressure against the peel is just sufficient to puncture the oil cells without breaking or rasping the peel. Small striations or grooves are distributed over the entire surface of the rolls and are of sufficient depth to receive the oil emulsion from the oil cells, thereby keeping it out of contact with the peel and thus eliminating to some extent its absorption by the albedo of the fruit.

Fraser-Brace Extractor

Whole fruit is passed through a corridor of carborundum rolls in this process, as shown in Fig. 2. As the fruit passes through the extractor it is turned over and

Method of Extraction	Fraser-Brace	Pipkin Roll	Difference
Yield of Oil/Ton of Fruit	1.22 lb.	0.40 lb.	
Specific gravity 20°C./20°C.	0.8793	0.8773	0.0020
Refractive index	1.4844	1.4835	0.0009
Refractive index of 10% distillate	1.4724	1.4731	0.0007
Difference	0.0120	0.0104	0.0016
Optical rotation	------	+43.18	------
Optical rotation of 10% distillate	+49.94	+50.16	0.24
Difference	------	6.98	------
Aldehyde content (citral - %	4.95	5.66	0.71
Ester content - %	6.90	6.98	0.08
Evaporation residue - %	13.14	11.44	1.70

Table 2. A comparison between the physical and chemical properties of coldpressed Persian lime oil manufactured by two methods of extraction.

over and abrasive rolls rasp the flavedo from the fruit. Water sprays are directed onto the fruit and rolls to wash away the oil and grated peel. The oil and water emulsion is passed over a screen to remove the suspended solid particles and then transferred to settling tanks in which it is held 3 to 12 hours to effect complete settling and to allow the emulsion to break. The top 20 percent of each tank is centrifuged to secure the oil. The rolls are completely enclosed and very little loss of oil is encountered.

Distilled Oil

Distilled lime oil is manufactured from cannery peel. In the Pipkin roll process the peel is first passed through a Pipkin roll in order to secure some coldpressed oil; then it is mashed or chopped and steam distilled at atmospheric pressure. In the Fraser-Brace process the effluent from the extractor is centrifuged to obtain some coldpressed oil; then the effluent from the centrifuge is steam distilled to secure the remaining oil. The distillation was effected with direct and indirect steam under constant agitation. Because of the large quantity of steam injected, almost complete exhaustion of the charge occurred within 45 minutes. Figure 3 shows an installation for the manufacture of expressed and distilled lime oil, and the flow diagram for this commercial process is given in Fig. 4.

Survey of Commercial Plants

Information pertaining to the two processes used in the manufacture of expressed and distilled Persian lime oils in Florida during the 1948 season was secured through the cooperation of commercial processors. In order to secure the data used in the preparation of the flow sheet, the author visited the two plants using the different methods of oil extraction. These plants were located at Florence Citrus Growers Association, Florence Villa, Florida. Data were taken covering periods of operation of 24 hours duration. Information obtained from this study was incorporated into a flow diagram for the Pipkin roll process and presented in Fig. 4.

Collection of Samples

A total of 26 samples of coldpressed and distilled Persian lime oils were secured. Fifteen of the samples were coldpressed oil secured from two plants, each of which used a different method for the extraction of the oil from the peel. These samples were taken once a week from lots of oil which represented the production for approximately one week. These samples represented coldpressed oil which was expressed from 11,232 standard field boxes of Persian limes.

After the removal of some coldpressed oil from the

	Persian Lime			West Indian Lime	
	Maximum*	Minimum*	Average	Maximum	Minimum
Specific gravity (20°C/20°C)	0.860	0.855	0.857	0.868	0.862
Refractive index (20°C)	1.4757	1.4743	1.4749	(15 C) 1.4770	(15 C) 1.4750
Optical Rotation	+52.60 (20°C)	+46.84 (20°C)	+48.91 (20°C)	+46°	+35°
Aldehyde content % (as citral)	4.6	1.6	2.4	1.5	0.5
Ester content-%	3.5	1.8	2.6		
Evaporation residue-%	1.7	0.3	0.7		

Table 3. Florida coldpressed Persian lime oil compared with coldpressed West Indian lime oil.

peel, the peel was then steam distilled to secure the distilled lime oil. A total of 11 samples were secured. Methods of analyses employed were those previously used by Kesterson and McDuff.[4]

Relation of Yield to Properties

The physical and chemical properties of samples of coldpressed lime oil, which were secured from two commercial plants from July through October 1948, are presented in Table 1. The factor found to influence the physical and chemical properties of coldpressed Persian lime oil to the greatest extent was the yield of oil secured from the fruit. Yield data on the two methods of manufacture were determined and are as follows: (1) Pipkin roll 0.4 lb. oil/ton fruit and (2) Fraser-Brace extractor 1.22 lb. oil/ton fruit. The Fraser-Brace extractor obtained three times more expressed oil than the Pipkin roll. Oil manufactured by the Fraser-Brace extractor was so dark in color that optical rotation determinations could not be made in a 25 mm. tube. The average values for two composite samples of oil made by each of the two processes from October 13 to 16 and October 20 to 23 respectively from different lots of fruit are presented in Table 2.

Date	Specific Gravity 20°C/20°C	Refractive Index N_D^{20}	Optical Rotation α_D^{20}	Aldehyde Content % (Citral)	Ester Content %	Evaporation Residue %
7-31-48	0.8556	1.4745	+50.52	1.61	2.41	0.18
8-6-48	0.8579	1.4751	+46.84	2.32	3.49	0.88
8-9-48	0.8562	1.4746	+47.24	2.71	3.10	0.42
8-13-48	0.8572	1.4749	+47.44	1.77	3.04	1.23
8-20-48	0.8561	1.4743	+48.08	1.76	2.54	0.29
9-4-48	0.8560	1.4748	+48.92	2.31	2.63	0.48
9-11-48	0.8569	1.4748	+48.92	2.27	2.24	1.17
9-28-48	0.8596	1.4757	+47.60	2.37	2.49	1.70
10-15-48	0.8546	1.4747	+52.60	4.58	1.75	0.25
10-16-48	0.8565	1.4749	+49.60	2.27	2.38	0.83
10-23-48	0.8555	1.4749	+50.00	2.34	2.15	0.70

Table 4. The physical and chemical properties of distilled Persian lime oils produced in Florida during the 1948 season.

It can be seen from Table 2 that the higher the yield of oil obtained from the fruit, the higher the value for specific gravity, refractive index and evaporation residue. As the yield of oil is increased, more high-boiling, high-molecular weight constituents are evidently extracted, and the presence of a greater percentage of these compounds in the oil results in higher values for

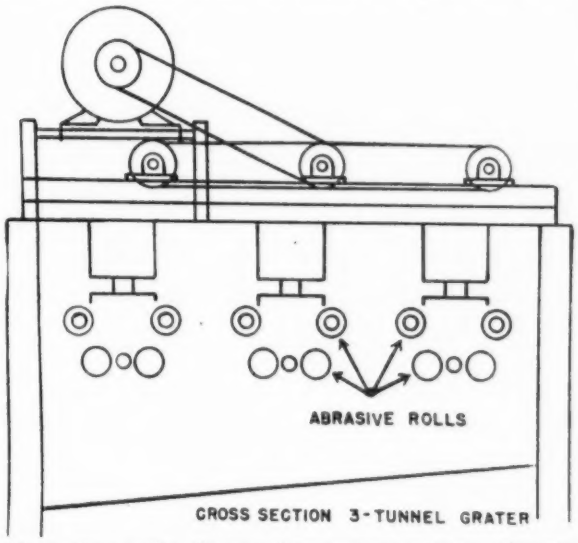


Fig. 2.—Cross-section diagram of Fraser-Brace extractor. (Courtesy Fraser-Brace Engineering Co., Tampa, Florida.)

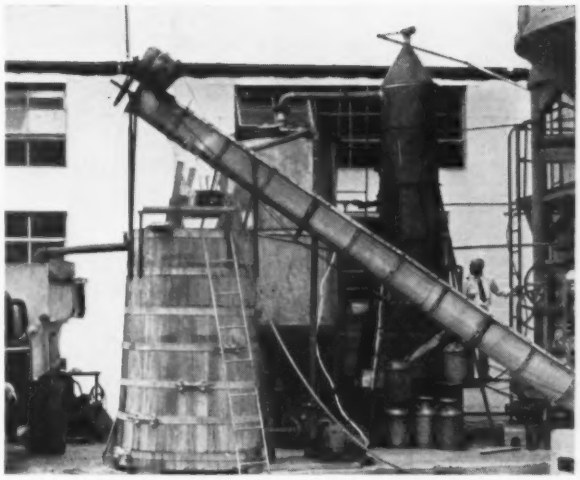


Fig. 3.—Installation for the manufacture of Florida expressed and distilled lime oil.

specific gravity, refractive index and evaporation residue.

The total quantity of recoverable oil in whole limes for this season ranged between 0.20 and 0.22 percent. This value is on the basis of 11,232 standard field boxes of limes.

Effect of Aqueous Phase on Aldehyde Content

It was impossible to make a material balance on the aqueous phase for each of the two processes due to irregularities in processing operations. However, a significantly larger quantity of water was used in the Fraser-Brace process than in the Pipkin roll process. Data in Table 2 indicates that the aldehyde content of

Process	Fraser-Brace	Pipkin Roll	Difference
Specific gravity 20°C/20°C	0.8546	0.8565	0.0019
Refractive index N_D^{20}	1.4747	1.4749	0.0002
Optical rotation α_D^{20}	+52.60	+49.60	3.00
Aldehyde content (citral)%	4.58	2.27	2.31
Ester content %	1.75	2.38	0.63
Evaporation residue %	0.25	0.83	0.58

Table 5. A comparison of two samples of distilled Persian lime oil made by two processes.

oil produced by the Fraser-Brace process was lower than that for the Pipkin roll process. This would indicate that the aldehyde content decreases as the amount of aqueous phase which comes in contact with the oil during processes is increased.

As shown in Table 1, relatively small variations in the composition of coldpressed Persian lime oil were noted throughout the processing season. As the season progressed the limes were continually becoming mature, resulting in a mixture of fully mature and partially mature fruit. This factor probably accounts for the properties of the oil remaining fairly constant. However, the last two samples taken representing the last two weeks run of the season gave significant differences for specific gravity and evaporation residue. In each case these values were lower, whereas, all the other values remained practically the same.

Comparison of Coldpressed Oils

Florida coldpressed Persian lime oil is compared with coldpressed West Indian‡ lime oil in Table 3. The values shown in the table for West Indian lime

‡ These small seedy limes are known by various names: Mexican, Dominican and Key limes.

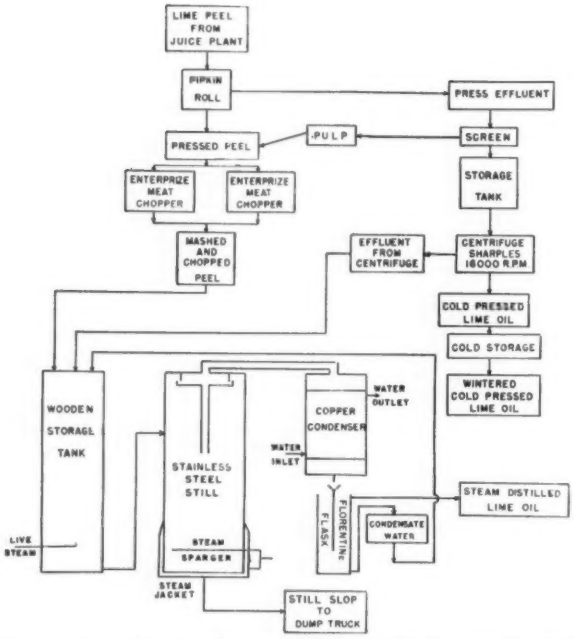


Fig. 4.—Flow sheet for the manufacture of Florida expressed and distilled lime oil.

oil are those given by Guenther[2]. The data in Table 3 shows that there is no significant difference in the values for specific gravity, refractive index and evaporation residue. However, the Persian lime oil has a higher value for optical rotation and a lower value for aldehyde content than those for West Indian lime oil. The maximum and minimum values for Florida persian lime oil as given in Table 3 are considered to represent a high quality oil. Since these two types of oil are made from two distinct varieties of limes, a fair comparison of their qualities cannot be made.

Effect of Process on the Composition of the

The properties of steam distilled Persian lime oil are given in Table 4. These samples were obtained from peel which was first expressed to obtain some coldpressed oil, and subsequently steam distilled to produce the distilled oil of lime. In Table 5 a comparison is given of two samples of distilled Persian lime oil made from the same lot of fruit. One sample was made by the Pipkin roll process while the other was made by the Fraser-Brace process. In the Pipkin roll process the peel, which was passed through the Pipkin roll, is crushed and mashed in an Enterprise meat chopper, water added, and then distilled. In the Fraser-Brace process the effluent from the centrifuge is distilled to obtain the oil.

From Table 5 it can be seen that there is a considerable difference in these two oils. The oil obtained from the Fraser-Brace process had a lower value for specific gravity and a higher value for optical rotation.

	Peel was coldpressed prior to distillation	Peel was not coldpressed prior to distillation	Difference
Specific gravity 20°C/20°C	0.8569	0.8560	0.0009
Refractive index N_D^{20}	1.4748	1.4748	0.0000
Optical rotation α_D^{20}	+48.92	+48.92	0.00
Aldehyde content (citral) %	2.27	2.31	0.04
Ester content %	2.24	2.63	0.39
Evaporation residue %	0.48	1.17	0.69

Table 6. Distilled Persian lime oil made from peel which was coldpressed prior to distillation as compared with oil made from peel which was not coldpressed prior to distillation.

The aldehyde content was 101 percent higher. The ester content and the evaporation residue were 36 and 232 percent higher respectively for the Pipkin roll process. The loss of aldehydes which occurred in the Pipkin roll process was considered to be due to the degradation of the aldehydes by steam in the presence of citric acid. The still charge in the Pipkin roll process was much more acidic than that in the Fraser-Brace process. Guenther[2] has shown that the combination of heat and acid on lime oil has a marked effect on the aldehyde content of the oil.

Effect of Coldpressing the Peel Prior to Distillation

In Table 6 a comparison is made of the physical and chemical properties of oils distilled from fruit that had been coldpressed and from fruit that had not been coldpressed. Each of these samples was prepared by the Pipkin roll process.

As can be seen from the data in Table 6 there is no significant difference in the values for specific gravity, refractive index, optical rotation and aldehyde content. However, the oil made from peel that had not been coldpressed had higher values for ester content and evaporation residue.

Comparison of the Distilled Oils

Table 7 gives a comparison of Florida distilled Persian lime oil with distilled West Indian lime oil. The physical and chemical properties shown in the table for West Indian lime oil are those given by Guenther.[2] It will be noted that the Persian lime oil produced in Florida has higher values for optical rotation and aldehyde content. Whereas, the values for specific gravity and refractive index are lower than those of the West Indian lime oil. Guenther[2] states that a high grade lime oil should have a specific gravity of not less than 0.864 at 15° C. It can be seen from the data in Table 7 that the Persian lime oil produced in Florida

	Persian Lime			West Indian Lime	
	*Maximum	*Minimum	Average	Maximum	Minimum
Specific gravity 20°C/20°C	0.882	0.877	0.880	0.886 (15°C)	0.878 (15°C)
Refractive index 20°C	1.4853	1.4834	1.4845	1.4860	1.4800
Optical rotation	+44.08° (20°C)	+38.60° (20°C)	+41.54° (20°C)	+40°	+35°
Aldehyde content-% (as citral)	6.1	3.7	5.2	8.5	4.5
Ester content %	8.2	6.8	7.5		
Evaporation residue %	14.7	11.0	13.0	13.5	10.0

* Values from Table 1

Table 7. Florida distilled Persian lime oil compared with distilled West Indian lime oil.

is quite different from the West Indian lime oil and cannot be expected to meet the same requirements since it is made from a different variety of lime. The maximum and minimum values for Florida lime oil as given in Table 7 are considered to represent a high quality Persian lime oil. It is the writer's opinion that since these two types of oil are made from two distinct varieties of limes that the quality of the oils are different.

Summary

Commercial methods for the production of coldpressed and distilled Persian lime oils in Florida during the 1948 season have been studied and compared.

(Continued on page 161)

What the Retail Buyers Report

A sellers' market is on the way . . . Sales of cosmetics are booming in all parts of the country . . . Home wave permanents at their peak . . . Summer toiletries selling well

BOOMING sales of cosmetics at retail are forecast for this autumn and the coming months. The trend is definitely towards a sellers' market. On the Pacific coast cosmetic buyers have been directed to increase their inventories. From Los Angeles to Dallas to the Midwest and the East buyers report an excellent demand for cosmetics, particularly on items that were hard to get during the war years. The Korean situation is chiefly responsible for this but the newer items and the more attractively packaged items have also been responsible for the mounting sales of cosmetics over the past few months. Buyers in the Midwest particularly feel that home wave permanents have reached their peak sales and the task from now on will be to keep up the volume by repeat business. Summer items such as deodorants, antiperspirants, stick and liquid colognes are selling well all over the country. Liquid lip rouge is again appearing on the market and meeting with some favor.

Best Summer Cosmetic Business in Years Reported in Midwest

Chicago—"The best summer business we've had in years," is the comment by buyers across the great middle west, "and we expect it will continue." This was stated before there was war in Korea.

Today, mail orders on soap, shampoos, fine perfumes, and tissues of all types are showing a direct reaction to the Korean situation. All these were difficult to obtain during the war. The various detergent powders and similar types, as well as water softeners are feeling the pinch of demand, for orders are substantial.

"There is no indication, from the size of the order, that there is hoarding," said a leading State street buyer, "but there is a marked proof that some one is seeking protection in the types that were difficult to obtain during the war years."

The Tax Stays On

Last month there were important buyers who stated that the cosmetic tax was too profitable for the Government to let it go and while the tax stays on women are getting around that in their own clever way, assisted by the manufacturers.

"Between the two-for-one and the half price items, women should worry about a tax," said a buyer in Minneapolis. "This is the type of 'sale' every women looks for. This year has been an unusually good harvest. The best lines in the country have come out to offer this combination (either half price or two-for-one) and we are profiting from the additional unit sales thus made."

The combination of cologne stick and liquid has proved to be very attractive. The same idea in cologne and perfume has sold to advantage, and the combination for nails and hands also proved good. "It is an excellent way to introduce a new item," said a specialty shop buyer in Kansas City, "and reduce the total cost of the sales tax."

Fall Lines Now Ready

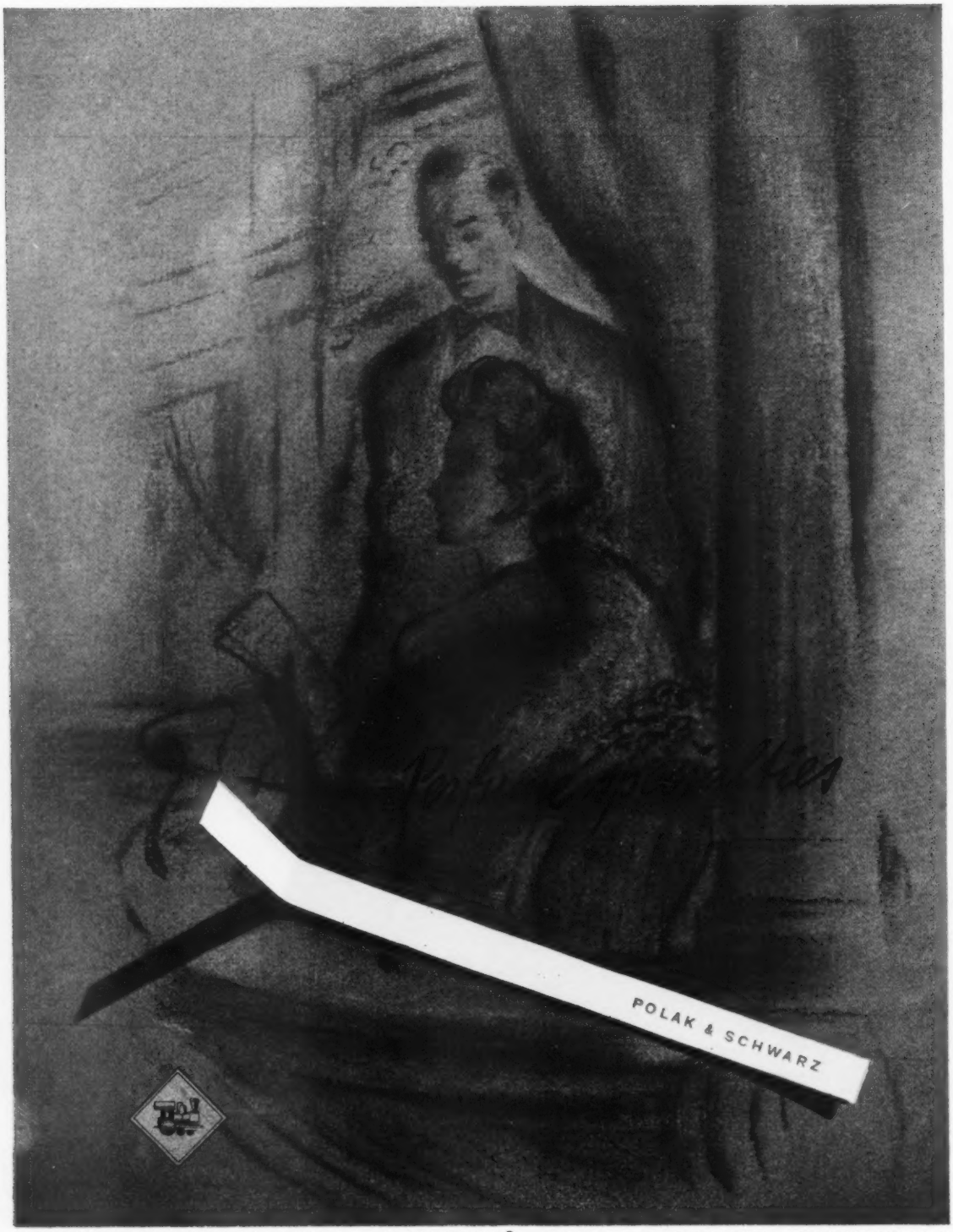
This month how these new items have been accepted will be indicated in the orders placed at the various toiletries meets across the country, which are important for buyers and makes it easy for them to shop near home and with the salesperson in their own territory. Here are some items that will not be repeated in department store selling:

Certain colognes, packaged to carry out the cool theme have been a sales flop. Yet the same item in drug stores was strong. Stick colognes have been tested and most of them found wanting—in repeat sales. Women have complained that the fragrance does not hold, as a general rule. There has been a clearing of these, in July and August specials.

Fragrances Favored

Last May when fragrances moved up into a new sales' position it was said to be because of the offerings of these in some stores at reduced prices for imports. But, imports were sold out, and the business continued to build. "It is not a rush," said a Detroit buyer," but it is a steady sale of the better brands. The idea of a small flacon for travel, very gay in type, has been an aid for we give one of these with the ounce sale. Women like them and return for more perfume. Perfume for each month is an idea that will bear new fruit this fall.

Colognes in the summer cooling types at $1 have been the outstanding feature. Beyond that price volume sales are limited, even with a brand name. Floral fragrances in perfume, cologne in solid or liquid form, are demanded. The recent addition—in Mid-July of a well known toilet water line—to the summer colognes has been disappointing in many cities. Partly because it was offered so late and when the 90-to 100 degree weather came this was not on the counter. Instead



PERFUMERY SPECIALTIES - ESSENTIAL OILS - AROMATIC CHEMICALS

NEW YORK • CHICAGO • LOS ANGELES • TORONTO

many sales of the firm's toilet waters were made at higher than cologne prices.

Probably there is no season of the year when a good treatment line of creams is more needed than in summer. The hot sun removes natural oil and this needs to be replaced at night by a good lubricant, say the skin physicians.

These are some of the creams offered in major cities: Chicago—Carson Pirie Scott & Co., featured a new Du Barry product and Mandel Brothers a Barbara Gould both stressed for neck and throat. The Golden Rule, St. Paul also offered Du Barry's new "creme." Emery, Bird, Thayer, Kansas City has done much to feature its cream and proved the point of before and after use and by a microscopic illustration showed what happens to skin that is dried out. John W. Thomas Co., Minneapolis, stressed the importance of a summer refresher and skin lotion. These same stores gave much attention to shampoos. Drug stores centered sales attention on colognes, deodorants, and permanents.

Permanents Hold Permanent

Buyers throughout this area report that the peak sale has been reached in permanents. From now on it will be to hold the repeats to a point where these will equal today's business. The spread in all types is thin. Contrary to early predictions the highest priced one on the market is having fair sale but as yet no repeats. Lilt continues to vie for first place with any on the market and repeats on this and new business is active.

New Items Are Here

Liquid rouge for the lips is receiving much publicity. It has the endorsement of conservative houses. About 30 years ago a dermatologist developed one that was important and had a vogue and the pendulum has swung back.

New deodorants in creams, powders, sprays and sticks have had a very successful season. The powder in the two-for-one motif at several stores in the Northwest had good acceptance, but it is too soon to report on repeat business.

Maternity Cosmetics Shown

For the specialty shop there is a new ensemble being offered by Maternity Cosmetics, Inc., Rochester, N.Y. The package was shown in Chicago last month and is being hailed by buyers, who sell underwear and foundations for this period, as highly important. There is a cream and lotion for use on the bust, hips and abdomen to maintain elasticity in the skin for comfort; there is a special soap to carry out the idea and a perspirant that deodorizes but does not stop the free flow of this important element during the period. The idea was developed by a woman, and has been tested in her own shop for three years.

Department store cosmetic departments will not be much interested as the total volume of sale is limited, but for the specialty shop it is an item that can be offered and sold and produce an entirely new group of customers. It is said to be highly recommended by the leading OB men in the field who find that the physical and psychological comfort it gives is well worth the price. It is priced comparably with similar products.—*Jean Mowat*

Buyers on West Coast Increasing Stocks of Cosmetics

Los Angeles—The word has gone out among West Coast merchandise managers to increase stocks. Early in June buyers were receiving the usual pressure to reduce inventories, and with the midyear inventory coming up the pressure was intensified. Then with current newspaper headlines store customer purchasing accelerated sharply, and instructions from Mahogany Row were abruptly reversed. Indications are for booming sales for the fall. Traffic in the stores is greatly increased, and while nobody is accusing anybody of hoarding, certain commodities are already in short supply.

Emphasis On Hair Goods Continues

Still new products for the care of the hair are coming along. The Broadway stores are featuring a new cream wave. The package contains a cream which when brushed into the hair prepares it for the set, a small brush, and the neutralizer. No pins or clamps in this one. The same stores are featuring a new hair coloring treatment with the usual 100 per cent paid ads and guaranteed sale. Certain stores still will not stock color treatments in the first floor departments, while the beauty shop on an upper floor goes gaily along administering the treatments. Store rules against the first floor carrying home color treatments are promulgated by executive decree,—not, need we remind you, by department buyers.

Naturally sun tan oils are receiving a big play at this time of year in Sunny California toiletries departments. A new one we saw the other day comes in a canteen type container held in an imitation leather bag slung by a strap over the shoulder.

Perfumes Coming Up

The increased interest in perfumes reflects the acceleration in customer buying. Buyers and merchandise managers alike are eager to divert all the fragrance business they can from dollar colognes, and with the new interest in purchasing shown by their customers already there is a willingness to go along with perfumes. Some of this interest, of course, is in anticipation of regular Fall business, but the belief is taking definite form that there will be a market for the more expensive packages this year that will surpass those of recent years. We predict that the Fragrance Foundation will be able to point with pride this coming January to the substantial sales shown during the fall buying period of 1950.

The Show Is Sold Out

George Voelker, manager for the California Toiletries Representatives annual show to be held at the Biltmore Hotel, Los Angeles, the week of August 20 reports that all available rooms are taken and applications are being turned away. Practically all accepted lines are to be exhibited at the show this year, and the sponsors of many new items are eager for space. It could be that all toiletries shows this year will find a readiness on the part of buyers to intersperse their visiting and looking with buying that will keep all the boys more than busy with their order books.

a delightful new scent in the perfumer's garden...

Lilac 3-Synfleur

$15.25 per pound

This delightful new product reproduces with exacting fidelity the freshness and fragrance of the living flowers.

It has power and penetration . . . and will prove highly effective in your extracts, toilet waters and powders.

Write for a working sample.

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Do you suppose that if the trend really is more nearly to a sellers' market in the days ahead that we will see a diminution in the practice of many toiletries manufacturers of giving a piece of the factory with every order? 100 per cent paid advertising, guaranteed sale, terms 2 per cent ten days pay on reorder, travelling and permanent demonstrators; how long will those be necessary? No question but that stores will be willing to operate on a more nearly commercially equitable basis than has been the case,—the only question is, how soon? Well, we'll all know the answer to that, and to many more much more important questions before we're very much older. In the meantime, it's a cinch that everybody is getting ready for the changes to come.—*Don Cowling.*

Cosmetic Buyers Concerned About Large Number of Items in Lines

Dallas—There seems to be a wide divergence among the various kinds of stores in Dallas as to the impact of the war in Korea. Some departments report an immediate move on the part of customers to stock up on items that were scarce during the last war. In fact, one store actually set a limit on some items and schooled clerks to discourage the purchase of large numbers of any cosmetics. On the other hand, some stores have felt no reaction whatsoever.

Department stores finishing up six months inventories are showing more sales this year than last in a majority of cases. Department managers are growing increasingly concerned about the large number of items they must keep in inventory in order to stock some more productive items produced by manufacturers. Cutting down on slow moving lines is of major concern, but without the cooperation of manufacturers this seems an almost impossible feat.

Most stores in Dallas have used large amounts of newspaper advertising during June to promote cosmetics and related products. It has been tied in with suggested vacation packages suitable and needed for travel. It has been tied in with sun protection items such as wind and weather lotions, sun tan oils and creams, shampoos, night creams and astringents.

Conversations with individual clerks revealed a general opinion that the public was becoming more educated on perfumes and that was a more stable demand for good perfumes than ever before. "It used to be," said one salesgirl, "that in the hot weather around here our perfume sales would drop off to nothing. Everybody would buy colognes . . . but this year our perfumes have continued to sell and usually people ask for them by name knowing exactly what they want."

One product that evidently has caught the buying public's eye is stick cologne. Almost every manufacturer now is making some sort of scented stick and sales continue heavy during the summer.

Two particularly good promotions were noted by A. Harris during the last month. In their weekly style show at the Century Room of the Adolphus Hotel cards were distributed offering a Coty atomizer at no charge if the card was presented at the store. The show featured different Coty odors in key with the costumes. The response was unusually good. Two weeks later samples of Shulton's "Friendship Garden" were distributed at the tables and featured in the show. Sales showed a marked increase.

Sanger Bros. report interest in a "summer" promotion with Elmo shampoo and Dorothy Gray deodorant spray dominant sellers.—*Jean Shaffer.*

Stick Colognes and Liquid Deodorants Under Smart Promotion Sell Well

Buffalo—Toiletries trends in Buffalo have been slightly stroodled up to mid-July by an extended, unseasonal rainy period mixed with cool cloudy weather.

However, this fact has proved no deterrent to business at Flint & Kent, where toiletries items have been moving at a lively pace. Liquid deodorants sharing top honors here include Elizabeth Arden, Sprite and Dorothy Gray. Herb Farm's Frostik is going well, and Rubinstein tops the list of suntan preparations—particularly interesting since this line has just recently been taken on here at Flint & Kent. The two solid colognes proving equally popular are Dana and Lelong.

The war scare has produced all the old time indications of hoarding, particularly marked in the purchase of soaps and cleansing tissues. The special English bath and toilet size soaps that have always produced a solid turnover month after month are now moving with the speed of sound—along with Jean Atkins' hand soap which sells twelve cakes for $1.25, and Flint & Kent's own name brand tissues of top quality.

The Elizabeth Arden and Pinwae home permanents are doing a more excellent volume here than ever, an amazing fact when one considers that the customers are predominantly from the strata of Buffalo's wealthy conservatives.

At Hengerer's there was a stick cologne promotion this month that went over with a wonderful bang. A center-aisle counter featured a 50-lb. cake of dry ice, surrounded with stacks of all brands of stick colognes, in sizes varying from $1.00 through $1.50 to $2.00. It was the most exhilaratingly cool looking display im-

I've just discovered a new beauty lotion formula. You should try it!"

aginable, and proved its appeal by producing an equally exhilarating sales total.

Included in the arrangement were Lelong, Charbert, D'Orsay, Tussy, Lentheric, Dana, Corday and Milkmaid . . . with all of them netting an equal amount of sales with the exception of Lelong, who managed to hold the lead throughout the event.

Spray deodorants remain excellent here, Sprite and Stoppette being the two favorites. Outstanding stick deodorant is V. P. (Very Personal). And hair goods continue to maintain their own "hit parade," with anything that will wash, condition or wave the hair better than before being in constant demand. In this category, Elizabeth Arden's Pin Wave home permanent continues on the level of its initial popularity.

The month reached its apex with the opening of a local branch of the John Powers School of Charm, under the direction of Marian K. Ferrel, local luminary who has conducted her own successful Charm School in Buffalo for the past eight years. The opening was enriched by the stimulating genuineness of Mr. Powers, who spent two days in town interviewing student applicants. His Powers fluid beauty aids will be sold exclusively in Buffalo at his John Powers School of Charm, Inc., which is located in a "blue-blood" downtown business area of *the* Avenue of Buffalo.—*Maggie Flemming*

Newness of Cosmetic Items Chief Factor in Producing Sales in Cincinnati

Cincinnati—Early summer brought booming business to Cincinnati's cosmetics counters, and most buyers agreed that it was the newness of the items that produced the business. Stick colognes (Tabu, Lelong, Lentheric and D'Orsay) were walking out, while just plain liquid colognes continued to sell about as usual—which was good. Prince Matchabelli's new package of potpourri, hitherto not a howling success in one store at least, was very strong when packed both as liquid and solid at $1.50.

In spite of the fact that most creams were staying on the shelves, Hudnut's new "creme superb" at $2.75 and $5 walked out. Even before an ad was placed by Shillito, the salesgirls were so convinced with it that they made substantial sales. The same store, having promoted D'Orsay with the "Keep Cool with Fragrance" tag line in both store windows and ads, had had good response even before putting bill inserts.

Dorothy Gray's extremely convenient "atomist" deodorant, in a bomb bottle, was "hot" with and without advertising, wherever it was on sale. Men liked it here. Milkmaid's new shampoo, just introduced, was expected to go well. This line, for a long time not available in the city, has a steadily growing line of users. Without advertising Revlon's "stormy pink" was doing well and Coty's new deodorant powder, Shakti, was "taking."

Ciro's first venture into the popular price field, with two fragrances of toilet water in a $2.75 box is a hit here, and a surprise to at least one buyer. But in general, it certainly wasn't requiring cut-price events to bring in buyers.

The teen agers, out of school, seemed to be buying only lipsticks, and one buyer opined that a lot of education will be necessary to bring them to buy more than that . . . Dark lipsticks were selling more than either the pinks or the oranges said to be so complimentary to summer tans.

Something seemed to be happening in the home permanent field. Though buyers predicted that the current tremendous popularity of one bobby-pin-type of curl is a flash in the pan, they said it indicated a general dissatisfaction with the curler-type of wave. In my opinion they're right, as the home permanent people will never attract the middle aged gal whose arms get tired if she has to sit for perhaps 45 minutes laboriously blocking her hair with clumsy fingers. If she's familiar with the pin curl method, as she's much more likely to be, the whole permanent-waving operation will seem much less formidable to her. The new Lilt was doing better than most buyers expected. Toni was a little off.

Most leg make-up was failing to sell, though "Coppertone" was number one favorite of those that did. The new stick deodorant, "VP," was a hit; "Stoppette" seemed to lead the liquid deodorants, with Tussy leading the creams.—*Mary Linn White*

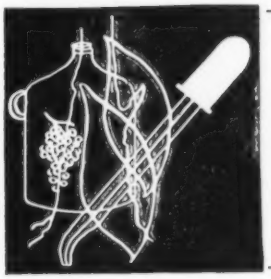
New Hand Make-up Used for Leg Make-up in Pittsburgh Area

Pittsburgh—The "cent" appeal is the one that attracts attention in the cosmetic field these days. A striking example of this was the recent introduction in this area of lipsticks that looked bigger than dollar sizes—but which were sold at a third of that cost. Also an added customer attraction was the indelible quality of the product. Women appear to be exceedingly interested in a lipstick that retains its color and has staying qualities. They frequently express doubt whether this can be accomplished, sales girls report, but are willing to try a new one that promises to do it.

Test area in this vicinity for a new hand make-up (Lady Esther's 'Hands Up') was gratifying. Better-than-expected response was received. Customers say they tried it as leg make-up—liked it for that purpose because it didn't rub off on clothing as some leg make-ups tend to do— and because it didn't "spot" when they were caught out in the rain.

An interesting comment on stick colognes has been that women report some brands lose their fragrance too quickly. Before half the stick has been used, it loses its "flavor." Following through to find out why this happens, the concensus seems to be that containers often do not have a lid that clamps on tightly enough, and the perfume escapes. A pick-up in interest on stick colognes has been reported, with a preference of this method of handling colognes for travel.

Eye make-up has been accepted with interest by younger girls, but a number of older women are doubtful about trying out different colors and methods of application. The "past thirty" group have greater interest in products that do something for wrinkles or cover up circles, etc. Since interest in eyes, according to newspaper girls who write on beauty products, usually evokes almost as much interest as hair products in reader response, it appears that eye make-ups ought to do a lot of business. So far in this city, the new slant-eyed style of make-up is not used by any number of women.—*Lenore Brundige.*



Flavors

Valerates and Isovalerates

The valerates and isovalerates are an important group of esters which have found greater employment in flavorings than in perfumes . . . Suggested applications in flavors

MORRIS B. JACOBS, Ph.D.*

EVEN a casual glance at the literature concerning the use of aromatic chemicals in flavors discloses that the valerates and the isovalerates are commonly employed components. Amyl valerate or isoamyl valerate was one of the first esters used in the preparation of artificial flavors and even the first edition of Beilstein (*Handbuch der Organischen Chemie*, Voss, Hamburg, 1881) has a note that apple ester can be made by diluting 1 part of amyl valerate with 6 to 8 parts of alcohol.

Nomenclature

In many instances in commercial practice the valerates and isovalerates are still called by their old names such as ethyl valerianate and valerianic ether which are used for ethyl valerate. It is true that many formulas employ the old names and buyers still request these compounds by their old names but a real effort should be made to sell them under their approved chemical names so that the ambiguities of the literature will in time disappear. Actually many of the compounds called valerates are isovalerates that is they are esters of isovaleric acid $(CH_3)_2CHCH_2COOH$ and not of *n*-valeric acid, $CH_3CH_2CH_2CH_2COOH$.

It will be convenient as with other discussions of the esters used for flavors in this section to place the esters of the valerates into three major groups, the aliphatic valerates and isovalerates, the esters formed with the terpene alcohols, and the esters formed with the aromatic alcohols. This is a convenient grouping for the aliphatic esters are used virtually only for flavorings whereas the terpene and aromatic alcohol esters of the valerates have some perfume employment. By and large the isovalerates are used more for flavor work than for perfumery.

* Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

Aliphatic Isovalerates

Methyl isovalerate, $(CH_3)_2CHCH_2COOCH_3$, is a readily volatile liquid which has an apple flavor, a bitter taste and a marked fruity odor. This ester boils at 117 deg. C. and has a specific gravity of 0.881. It is completely miscible with 95 per cent alcohol and is very slightly soluble in water. Methyl isovalerate has been suggested for apple, date, honey, melon, and quince flavor formulations. This ester is not carried as a stock item by the principal aromatic chemical firms.

Ethyl isovalerate, which as mentioned is also known as ethyl valerianate and valerianic ether, $(CH_3)_2CHCH_2COOC_2H_5$, is a colorless liquid, which is readily volatile. It has an apple flavor, a sour-sweet taste and an agreeable fruity odor which on dilution distinctly resembles that of apples. It boils at about 133–135 deg. C. but one commercial firm lists the boiling point of its product as 145 deg. C. Ethyl isovalerate has a specific gravity of 0.866–0.870 and a refractive index of 1.3967. This ester is soluble in 70 per cent ethyl alcohol; it is miscible with 95 per cent alcohol; and one volume is soluble in about 500 volumes of water. Ethyl isovalerate has been recommended for use in melon, nectar, peach, quince, walnut, and apple flavorings and has also been suggested for use in apricot, cranberry, hops, honey, and pear formulations. It is carried as a stock item by a number of firms handling aromatic chemicals.

Propyl isovalerate, $(CH_3)_2CHCH_2COOC_3H_7$, is a colorless liquid with an apple flavor, a bitter-sweet taste, and an odor resembling apple. It has a specific gravity in the range of 0.863–0.869; it has a boiling point of 156 deg. C.; and it has a refractive index of 1.4036. Propyl isovalerate is miscible with alcohol and is insoluble in water. This ester does not have as wide application in flavor work as its homologues ethyl and isoamyl valerates but it is carried as a stock item by commercial firms. It has been recommended for use in currant, gooseberry, and strawberry essences and has also been suggested for apple, apricot, lemon, orange, peach, and pineapple compositions.

Isopropyl isovalerate, $(CH_3)_2CHCH_2COOCH(CH_3)_2$, is an analogous colorless liquid with an apple flavor, a sweet taste, and a fresh fruity odor. It has a boiling point of about 143 deg. C. and a specific gravity of 0.854. This ester has been suggested for use in apple, date, melon, and quince flavor compositions. Isopropyl valerate is soluble

in alcohol and is insoluble in water. It is not carried as a stock item by aromatic chemical houses.

Allyl isovalerate, $(CH_3)_2CHCH_2COOCH_2CH{:}CH_2$, is a liquid which boils under reduced pressure at 89 deg. C. at 90 mm. Hg pressure. It has a refractive index of 1.4162 at 21 deg. C. This ester has an apple and cherry character and has been suggested as suitable for incorporation in such formulations. Although it has only relatively recently been prepared commercially, it is now available for flavor chemists.

Butyl isovalerate, $(CH_3)_2CHCH_2COOC_4H_9$, is a colorless liquid also. It has an apple flavor, a sweet taste, and an agreeable fruity aroma which upon dilution resembles apple and pear. This ester boils at about 165 deg. C. and has a specific gravity of 0.877. Butyl isovalerate is soluble in 95 per cent alcohol and is insoluble in water. It has been recommended for apple and peach flavor essences and has been suggested for other compositions such as date, grenadine, honey, melon, quince, and pear. This ester is available commercially.

Isobutyl isovalerate, $(CH_3)CHCH_2COOCH_2CH(CH_3)_2$, is also a colorless liquid. It boils in the range 169 to 172 deg. C.; it has a specific gravity of 0.870–0.873; and it has a refractive index of 1.4064. This ester is similar to its homologues and isomer butyl isovalerate in that it has an apple flavor, and a sweet taste, but its fruity ethereal odor has a valerian note. Isobutyl isovalerate is miscible with 95 per cent alcohol; it is insoluble in water. This ester has been recommended for apple, apricot, and peach flavors and has been suggested as an ingredient in date, honey, cranberry, pear, quince, and strawbery essences.

Amyl isovalerate, $(CH_3)_2CHCH_2COOCH_2CH_2CH(CH_3)_2$, isoamyl isovalerate, which is also known as amyl isovalerianate was, as mentioned, one of the very first esters used in the preparation or artificial and synthetic flavors. It is a colorless, readily volatile liquid which has an apple flavor, a sweet taste, and a pleasant fruity odor which upon dilution markedly resembles the odor of fresh ripe apples. This ester boils in the range 191–194 deg. C., though one commercial product is quoted as boiling at 200 deg. C.; it has a specific gravity of 0.857–0.860; and it has a refractive index of 1.413–1.415. Isoamyl isovalerate is miscible with 95 per cent alcohol, is soluble in 70 per cent alcohol, and is very slightly soluble in water.

The product prepared from refined isoamyl alcohol is said to have a strawberry flavor. This ester has found, in all probability, the widest flavor application of the isovalerates. It has been recommended for use in apple, apricot, banana, melon, peach, pineapple, and quince flavors and has also been suggested as suitable for incorporation in blackberry, black cherry, date, grape, grenadine, honey, pear, raspberry, strawberry, and walnut flavor formulations. Isoamyl isovalerate has found some use as a modifier in perfume compositions. It is carried as a stock item by nearly all houses.

Cyclohexyl isovalerate, $(CH_3)_2CHCH_2COOC_6H_{11}$, has recently been prepared on a commercial scale. It is a liquid which boils at about 223 deg. C. at 760 mm. and under reduced pressure at 58–62 deg. C. at 0.5 mm. Hg pressure. It has a refractive index of 1.4410 at 21 deg. C. Its density is about 0.943. It has an apple and banana aromatic character and has been suggested for incorporation in such flavor essences.

Most of the esters of the valerate and isovalerate group available in the past were in the main isovalerates. Recently some of the *n*–valerates have been prepared on a commercial basis.

Aliphatic Valerates

Ethyl n–valerate, $CH_3CH_2CH_2COOC_2H_5$, is a colorless liquid with an apple and banana aromatic character. It boils under reduced pressure at 72–74 deg. C. at 65 mm. Hg pressure and has a refractive index of 1.3978 at 24 deg. C.

It is clear from the application properties of the aliphatic isovalerates and valerates, that they are used almost exclusively for the preparation of flavors and that their perfumery use is very limited.

The isovalerates are a good example of the influence of the acid constituent of the molecule on the flavor properties of the substance. Thus every one of the aliphatic isovalerates has a distinct apple flavor character. There are no exceptions from the methyl compound to the isoamyl compound and even the cyclohexyl compound. The apple flavor is carried over even into the terpene alcohol and aromatic alcohol compounds which will be discussed in a subsequent isue.

Method to Determine Propylene Glycol in Vanilla Extracts

To determine the amount of propylene glycol in imitation vanilla extracts the Association of Official Agricultural Chemists in Vol. 53, No. 1, page 103 describes a method that has been tested for accuracy. Procedures are stated for the analysis when propylene glycol alone is present and when glycerol is present. Both methods were tested and the results are tabulated.

Useful Books on Flavor

Flavor by Ernest C. Crocker.
Philosophy of flavor perception, chemistry of flavoring agents . . . Methods of preventing off flavors in commercial products $3.50

Synthetic Food Adjuncts by Morris B. Jacobs, Ph.D.
Synthetic food colors, flavors, essences, sweetening agents, stabilizers and similar food adjuncts . . $5.50

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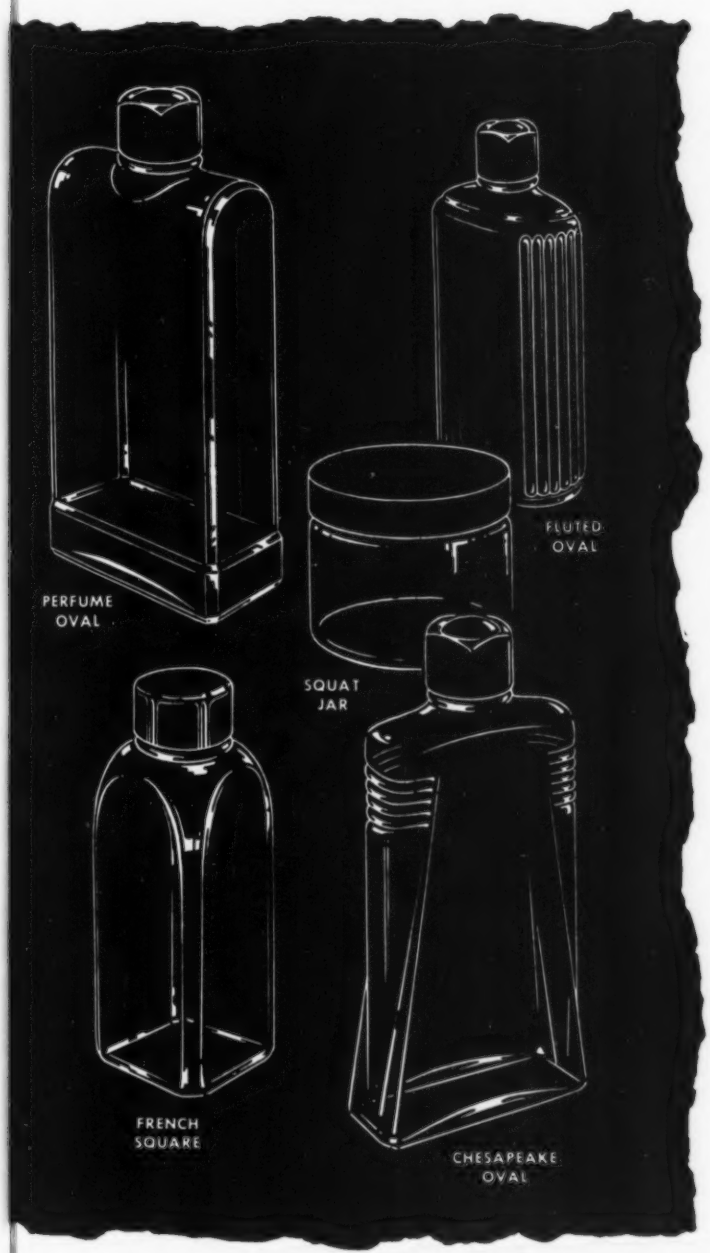

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A Veteran in the Vanilla Industry

Chester A. Smeltzer who will round out 48 years of service in the vanilla industry is convinced that the Mexican method of curing is superior . . . Career of author, mayor, philatelist and vanilla expert

CHESTER A. SMELTZER, one of the best informed, one of the most energetic and one of the most colorful figures in the vanilla industry will round out 48 years of service to the business he has made his life work on September 15. In years and in breadth his experience rivals that of the oldest vanilla merchandisers. His popularity and executive ability which contributed so much to his success have been recognized by his fellow townsmen in Ramsey, N.J. who for the second time elected him mayor. He was also recently appointed a member of the Bergen County Park Commission.

His career has been interesting. After completing his formal education he took a course in business college and then joined H. Marquardt & Co.—leading importers of vanilla beans at the time—with whom he was associated for 18 years. During that period under the tutelage of Hans Triest, he laid the foundation for his later work in curing and merchandising vanilla beans. Over the years in fact he has spent much of his time in the vanilla districts. His series of photographs covering the entire process of curing vanilla beans in Mexico as well as his articles in the twenties on vanilla will be remembered by the older readers of THE AMERICAN PERFUMER. He is now writing a book on vanilla and in this as in all other work Mrs. Smeltzer is collaborating with him.

The Mexican method of curing he carried with him to Guadeloupe where he took his family to live on a vanilla plantation. There he spent considerable time perfecting a method based on Mexican principles for the South American type of vanilla. It was also through his efforts that the first attempt was made to perfect the Mexican cure in Java. One of the estates in which he was interested succeeded in producing for a few years a high type of Java vanilla cured in the Mexican manner. He is convinced of the superiority of the Mexican method of curing and believes that next to the Guadeloupe variety, Java vanilla, cured in this manner might keenly rival its Mexican antecedents. He still hopes to make a trip to Java to try to persuade some of the estates to bring about a better method of curing and classification.

The far away South Sea islands have also benefitted by his activities. For a while he endeavored to foster the development of the Mexican variety of vanilla there but the Chinese curers preferred to devote their efforts to the production and cure of the more familiar Tahiti variety.

Mayor and Mrs. Chester Smeltzer hold one of their informal conferences

In 1920 Mr. Smeltzer joined Dodge & Olcott where he served in the vanilla bean department until 1926 when he organized Sloan, Graves & Smeltzer. Later he retired from this firm. In 1929 Emile Dammann of the famous vanilla family establishments well known in Europe and Madagascar, persuaded Mr. Smeltzer to join the New York company, P. & P. Derode Freres & Dammann to promote interest in the better cures of Madagascar and Comoro vanilla in the United States. In 1932 he organized the firm of Dammann & Smeltzer, Inc. where with Pierre Dammann he still carries on the business with offices at 71 Murray St., New York. In 1948 Mr. Smeltzer flew to Madagascar where he spent considerable time during the curing period.

Nationally Known Philatelist

Mr. Smeltzer is a nationally known philatelist. He joined the Essay Proof Society as a charter member in 1943. In recognition of his ability and knowledge of the subject he was elected to the board of directors and by them as first president. In every issue of the Society's journal his "President's Transmitter" carried encouragement to live and let live as friendly, square collectors. At the end of his five years as president the membership pf the Society had grown to 500. He is also a director and governor of the Collectors' Club. In the past seven years he has donated numerous trophies and awards for best proof exhibits and best articles contributed each year to the journal.

Public Interests

Possibly his experience in developing the Society led him to accept the nomination as borough councilman of Ramsey, N.J. where his home, "East Gate," is located. He was elected and served so well that he was subsequently nominated and elected mayor despite his own party's opposition. After completing his first term, his administration was so successful that he was renominated without opposition for a second term. A new park and recreation field for Ramsey were provided by him. In collaboration with John Y. Dater he published a book last year "The Birth of Ramsey and the Growth of Ramsey." Mr. Smeltzer contributed the section of the book on the birth of Ramsey.

In June of this year Mr. Smeltzer was made a member of the Bergen County Park Commission. In congratulating him the *Ramsey Journal* said in part: 'The mayor is endowed with a keen business mind that is not visionary but practical. He has a talent for looking ahead and that means planning for the future. . . . The formation of a league of eleven nearby municipalities was the happy thought of Mayor Smeltzer and the strength and power of this united effort has already been demonstrated." Two days of each week, Tuesday and Saturday, are devoted by Mayor Smeltzer exclusively to the welfare of Ramsey and of Bergen County.

With the association in his vanilla business of Herbert Stevenot, his son-in-law, Mr. Smeltzer is able to devote more of his time to public affairs. Mr. Stevenot, incidentally, is a chemist by profession and is a skilled musician. In his spare time he built the family television set. Mrs. Stevenot, nee Miss Marjorie Ruth Smeltzer, was graduated from Mt. Holyoke College where she majored in English literature and was elected to Phi Beta Kappa for high scholarship. She is now studying nights for her master's degree. At present she is associated with the J. Walter Thompson Co.

Mr. Smeltzer's other daughter, Mrs. Dorothea Mae Smeltzer Schleuning is also an alumna of Mt. Holyoke College where she majored in economics and social studies. She is engaged in social work in Brooklyn. Her husband, Hubert W. Schleuning, is on the faculty of the Polytechnic Institute of Brooklyn teaching physics and is doing research work on nuclear fission and radar for the Polytechnic Research & Development Co.

Industry News

Congress Defers Amendment for Increased Alcohol Drawback

Action has been deferred on H. R. 8920 on proposed amendments which would permit an increase in the drawback claim from $6 to $7 per proof gallon on ethyl alcohol withdrawn and intended for use in the production of flavors and flavoring extracts. No revised bill will be passed during the current session of Congress. Members of the Senate Finance Committee were in favor of the recommendation to increase the allowance as presented by the Flavoring Extract Manufacturers Assn. Action was deferred at the request of the Secretary of the Treasury. The next session of Congress may act favorably on this important matter.

Sugar Quotas Increased 350,000 Tons for 1950

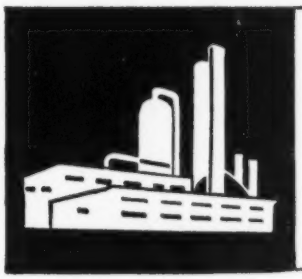
An increase of 350,000 short tons, raw value, in the supply of sugar that will be available under 1950 sugar quotas has been announced by the Dept. of Agriculture. With this increase a supply for the year totaling 7,850,000 short tons, raw value, will be established in the consumption requirements determination.

Apple Ice Cream and Ices Are Now Practical Products

A new method for producing apple juice and apple juice concentrate will make apple ice cream and ices practical products. Previous attempts to impart apple flavor to ice cream have not proved entirely satisfactory. The new techniques have been developed at New York State Agricultural Experiment Station at Geneva. The process involves addition of ascorbic acid to the apples during or immediately after milling and before pressing. The ascorbic acid delays the changes that produce browning of the apples until oxygen can be removed by deaeration and enzymes inactivated by pasteurization. Freezing this juice and removing the ice by a process originated at the station gives the concentrate two and one half times the soluble solids content of the regular juice. Apple ice cream is made by blending 29 per cent of the new concentrate with an ice cream mix containing 14 per cent milk fat, 10 per cent milk solids not fat, and 15 per cent sugar. A good mild-flavored ice cream was also obtained by adding 35 per cent apple juice. Juice or concentrate is added at the freezer after mix is partly frozen.

Hearings on Proposed Connecticut Standards of Identity

Briefs regarding provisions contained in the proposed standards of identity and quality for uncarbonated fruit beverages, ingredients and imitations thereof issued by the Connecticut Food and Drug Commission may be filed not later than August 1 by any one objecting to any of them. A hearing was held in Hartford on the provisions July 25.



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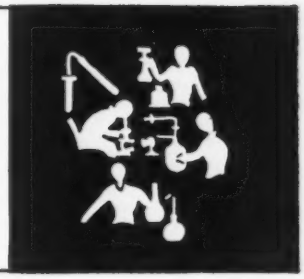

Glycerine in New Cosmetics

How glycerine is being employed in cake-makeup, cream rouges, non-greasy cream bases, two-way shaving creams hair preparations etc. . . . Properties and advantages

JOYCE C. KERN and ROBERT A. STETSON

GLYCERINE enjoys an outstanding reputation as a basic raw material of the cosmetic industry. Its adaptability was well indicated recently when, from London, Ruemele (1) wrote that, "Undoubtedly glycerine might be regarded as the most frequently used ingredient for the manufacture of various cosmetics."

Use in Cosmetic Formulation

This statement is evidently based on the fact that, with the obvious exception of dry powders, there is hardly a type of toilet goods product in which one or more of glycerine's properties could not be used to advantage. These characteristics have been discussed in detail by Lesser[2]. Briefly stated, however, it may be said that glycerine is used in cosmetic formulations because:

(1) It serves as an efficient humectant or hygroscopic agent.
(2) In addition to the plasticizing effect of the moisture it holds, glycerine itself is an effective plasticizer.
(3) An outstanding solvent and a good vehicle for many substances, its viscosity provides "body" and the ability to suspend many insoluble materials in liquid preparations.
(4) It has excellent *lubricating* properties and imparts a desirable smoothness to many products.
(5) Its antifreeze properties are important in relation to winter shelf-life.

Glycerine is notable for its emollient and soothing action on the skin. It has a warm, pleasing sweetness which, in addition to other properties, commends its use in dentrifrices and mouth washes. In general, the wholesomeness and safety of natural glycerine have long been recognized as among its most important properties. Of course, only glycerine of U.S.P. quality should be used in toilet goods production. In this connection, it should be noted that the monograph on glycerine in the new 14th edition of the Pharmacopoeia will contain a test for chlorinated compounds.

Consideration of these properties helps to explain why glycerine continues to expand its usefulness with the development of new cosmetic products of improvements in old ones. A check of technical and patent literature of the last few years shows very definitely how often this adaptable fluid is called upon to impart certain desirable characteristics to the new or improved products.

Valuable in Make-up

Thus, glycerine is finding more frequent use in the manufacture of make-up materials. An interesting example of such employment is provided in a simplified procedure for making an improved make-up cake. When Sharlitt[3] decided to use milk protein as a non-irritating binder in such items, he also indicated that glycerine was a most valuable adjunct by including it in all of the examples in his patent. A typical method for making a make-up cake, which overcomes the tendency of similar products to cause dryness of the skin, calls for the use of:

Talc	70 lb.
Titanium dioxide	15 lb.
Pigments	3 lb.
Dehydrated skim milk	15 lb.
Sodium lauryl sulfate	¼ lb.
Mineral oil	5 lb.
Yellow petrolatum	5 lb.
Glycerine	10 lb.

The first five ingredients are mixed and the mixture passed through a micro-pulverizer to obtain complete intermingling. The powdery mass is placed in a mixer and the rest of the ingredients are added. The combined materials are again passed through the micro-pulverizer, and the material is then compressed into cake form and is ready for use.

Basic Foundation Cream

Glycerine is no stranger to other types of make-up materials. For example, it is a useful component of an improved basic foundation cream which can be varied to suit individual needs. Thus a product that leaves a thin, nongreasy film to which the powder will adhere firmly, may be made from:[4]

Glycerine monostearate (self-emulsifying)	4.5 per cent

Lanolin	2.48 per cent
Cetyl alcohol	4.95 per cent
Light mineral oil	18.60 per cent
Preservative	sufficient
Colloidal magnesium aluminum silicate ("Veegum")	1.65 per cent
Water	64.35 per cent
Glycerine	5.80 per cent
Triethanolamine	0.52 per cent

Mix the first five ingredients and heat to 65 to 70°C., stirring until uniform. Add the silicate slowly to the water, continually agitating until smooth. Add the glycerine and triethanolamine to this liquid gel and heat to the same temperature. Add the first mixture to the second and mix until smooth and cool.

Modern Type Cream Rouges

The benefits of glycerine may also be used advantageously in the formulation of modern type cream rouges, as in the following examples:[5]

Glyceryl monostearate (self-emulsifying)	11.0 per cent
Spermaceti	4.5 per cent
Glycerine	4.5 per cent
Water	71.0 per cent
Color lakes	8.0 per cent
Perfume	1.0 per cent
Preservative	sufficient

Heat the first four ingredients together at 90°C., stirring until a smooth cream forms. Cool to 50°C., then add the perfume and color and mill until the perfumes and colors are evenly dispersed.

During the last year or two, there has been a growing interest in lip make-up that will not smear and come off on clothes, cigarettes, drinking glasses and other surfaces. Glycerine may be a useful component of such items. This is indicated in Kilmist's[6] procedure for making liquid products which, when applied to the lips, form a moisture-proof and smear-proof coating.

Glycerine is a standard ingredient of many cosmetic creams. Indeed, it is one of the essential components of the oil-in-water emulsion products that are often referred to as the vanishing type bases and which comprise the bases of many cosmetic products, ranging from hand creams to brushless shave creams. The development of new types of cosmetic creams or the employment of new materials in their production is frequently an indication for the use of glycerine. It is employed, for example, with diethylaminoethanol, a fairly new and very reactive emulsifier which produces cosmetic creams of exceptional whiteness.[7] Thus, in experimental work, a completely white, comparatively odorless, stable vanishing cream was produced from:

Stearic acid, triple pressed	180 Gm.
Mineral oil	50 cc.
Diethylaminoethanol	5 cc.
Witch hazel extract	50 cc.
Glycerine	80 cc.
Water	400 cc.

Use as Plasticizer

Among the best known uses for glycerine is its employment as the plasticizer in cosmetic compositions based on vegetable gums, alginates, pectin, and other related thickening, suspending and emulsifying agents. Recently Musher[8] introduced a new material, obtained from oats, as a means of providing viscosity, adhesiveness, covering power and gum-like effects to various cosmetic products. Used in a ratio of from 2 to 7.5 per cent, this special oat fraction could be employed in the preparation of various skin lotions, vanishing creams, cold creams, depilatories, and dentifrices. Glycerine, it was specified, could be used as an emollient and for other purposes in formulating such cosmetic products. For instance, a simple lotion could be made by adding the oat fraction to a mixture of glycerine and rose water.

Non Greasy Cream Base

It must not be forgotten, however, that the natural thickening and emulsifying gums are feeling the competition offered by the various more uniform and dependable cellulose derivatives. The newer and the older types of materials are quite alike, however, in that they make similar use of glycerine.[9] Illustrative is its presence in a non-greasy cream base as given by Davies,[10] as follows:

Methyl cellulose ("Tylose" M450)	1.5 per cent
Liquid petrolatum	10.0 per cent
Glycerine	5.0 per cent
Methyl para-hydroxybenzoate	0.1 per cent
Water, to make	100.0 per cent

Dissolve the methyl cellulose in 30 parts of the preserved water, heated to about 60°C. Allow to stand and cool with frequent stirring. Add the petrolatum in three separate quantities, mixing to emulsify after each addition. Finally, gradually add the remainder of the water mixed with the glycerine. Mix and homogenize.

The use of novel ingredients in cosmetic preparations is often an indication for extending the scope of glycerine's usefulness. An interesting case in point is offered in preparations containing brewer's yeast as a main ingredient and said[11] to be beneficial to the skin. An example of such a cosmetic product is given as follows:

Powdered linseed	12 Gm.
Water, hot, distilled	460 cc.
Brewer's yeast, debittered	620 Gm.
Glycerine	40 Gm.
Triethanolamine	5 Gm.
Preservative	20 Gm.

The product also contains five drops of benzaldehyde.

Most shaving creams contain substantial proportions of glycerine. In discussing the production of such items. Ruemele[12] recommends the addition of glycerine as a precaution against the tendency of shaving creams to dry out or change appearance during storage. In addition, he feels that glycerine is valuable because it helps to increase the smoothness and the softness of the products.

Two-way Shaving Creams

It is unnecessary, of course, to here consider the production of the standard types of lathering or brushless shaving creams. However, Janowitz[13] has called attention to a development that should be of considerable interest. He refers to the so-called "two-way" shaving cream. If the user has time, he may make a lather with such a product, using water or, if he is in a hurry, he may use it as a brushless cream. He gives the following formula which can serve quite usefully as a cream of this sort:

Stearic acid	18 parts
Lanolin	3 parts
Mineral oil	3 parts
Glycerine	5 parts
Triethanolamine	2 parts
Borax	2 parts
Water, to make	100 parts

Janowitz remarks that if the stearic acid content is increased, the cream becomes more definitely the brushless type, but if the soap content is higher, there is obtained a quite highly saponified shaving cream.

Another noteworthy trend has been the interest displayed in liquid shaving creams. Perhaps the availability of the new types of polyethylene "squeeze bottles" may

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U.S.I. CHEMICAL NEWS

August ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1950

New Lauryl Sulfate Surface Active Agent Marketed by U.S.I.

A new lauryl sulfate surface active agent is now being marketed by U.S.I. under the trade name SIPON L-20. The unusual composition of the product particularly recommends its use where high foam and detergency coupled with mild action on the skin are desired.

SIPON L-20 is the first surface active agent marketed as the result of a broad detergent development program undertaken jointly by U.S.I. and Societe Sinnova of Paris. A new production unit is nearing completion in Baltimore and additional products will be offered in the near future.

Urethan Halts Progress Of Lymphomatous Cancer

Oral administration of urethan is reported to have produced an abatement of the symptoms of mycosis fungoides, a lymphomatous cancer condition, in four of nine patients, for periods lasting from three to nineteen months. The drug was given as a 20% solution in syrup of raspberry, in doses ranging from 1 to 5 gm. per day, according to the physicians who made the treatments.

Effects on four of the patients were described as favorable and apparently significant, although temporary. Improvement consisted of relief of itching, repression of tumors, and epithelization of ulcers, the physicians state.

Eight New Antibiotics From Vegetables, Fruit

Eight new antibiotics, discovered in cabbages, sweet potatoes, and bananas are being tested for their antibacterial and antifungal potentialities. A pure crystalline antifungal agent has already been isolated, it is reported, from dried leaves of cabbage. A wilt-resistant variety of sweet potatoes is said to have yielded an extract which combats wilt-producing fungi in tomatoes. Another extract is described as active against bacteria which cause boils. Tests also indicate that extracts of chemicals produced during ripening of bananas are of a very high potency.

New Manual on Finishing And Maintaining Floors

A new manual is reported available which helps analyze specific floor problems and tells how to prepare floors for finishing, how to apply coatings, and how to maintain them. Included are sections on floors of the following types: wood (including gymnasium floors or other floors where athletic activities are held), asphalt tile, rubber tile, linoleum, concrete, cork, terrazzo, magnesite, marble, and masonite.

Stored Grains Protected By New U.S.I. Products

New Pyrenone Protectants for Use on Wheat And Other Grains and Seeds Now in Commercial Production

Culminating four years' intensive laboratory investigation including two years of extensive field trials, U.S.I. announced late in July the commercial production and availability of two new products for the protection of wheat and other stored grains and seeds against insect infestation.

This dramatic close-up shows what a weevil infestation can do to wheat. The white, dusty material is known as "Frass" — "farinacious matter." A treatment with Pyrenone Wheat Protectant when the grain was put in storage could have prevented this damage.

Pyrenone Wheat Protectant is recommended solely for use on wheat and was developed to meet the special requirements imposed by the normal trade methods of handling and processing wheat, and uses pulverized wheat ground to a special mesh as a diluent.

Pyrenone Grain Protectant, based on a specially selected mineral diluent, has a broader field of usefulness and is recommended for use on corn, barley, rice, oats, and other grains and seeds under any conditions where the presence of a small amount of an added mineral is not objectionable.

(Laboratory and field tests demonstrated that the choice of a diluent is of vital importance in the performance of these protectants and further study may lead to the introduction of several more highly specialized protectants to meet the individual requirements imposed by certain crops.)

Insect losses in stored grains, seeds, etc., are of enormous economic consequence. Even in this country where techniques of harvesting and storage are far more advanced than in many areas, losses are estimated to range from a low of 2 or 3% under the best conditions to as high as 50% on some crops under adverse conditions. The average damage has been estimated at as high as 5% which in the U. S. alone would approximate 250,000,000 bushels or roughly $500,000,000.00

MORE

Makes Synthetic Rubber Without Use of Styrene

A new synthetic rubber called polybutadiene rubber is made from butadiene and requires no styrene, a large oil company announces. If successful the new synthetic may end the shortage of man-made rubber. Styrene, an essential ingredient in the synthetic known as "GR-S," is obtained from critically-short benzene, while butadiene, made from petroleum, can be produced in increased quantities in existing plants to meet the present heavy demand for synthetics, the announcement said.

Road tests indicate that the new synthetic is superior to GR-S and perhaps to natural rubber for tire treads. It may even be equal to "cold rubber" in quality, it is claimed. In the development process, polybutadiene latex is said to have been mixed with carbon black before conversion to solid rubber. A softer polybutadiene reportedly was obtained under moderately low temperatures.

Prevent Corrosion of Iron And Steel with Tungsten, Molybdenum Compounds

Corrosion of iron and steel by circulating water can be almost completely prevented, university scientists report, by addition of small amounts of tungsten and molybdenum compounds. Dissolving a few hundred p.p.m. of the compounds in circulating water or brine will stop rusting, it is claimed.

The compounds, sodium and potassium tungstate and sodium and potassium molybdenate, are at present more expensive than the chromates but have the advantage of being colorless, whereas the chromates are a vivid yellow. Their colorless properties suggest possible use of the compounds in such products as anti-corrosive paints.

Publishes New Free Guide To Photometric Analysis

A new manual on photometric methods of analysis has been published by a large laboratory equipment manufacturer with the aim of: (1) clarifying symbols and terminology (2) discussing range and accuracy of different methods (3) enabling the analyst to choose the operating conditions, filters, etc., best suited to the particular need.

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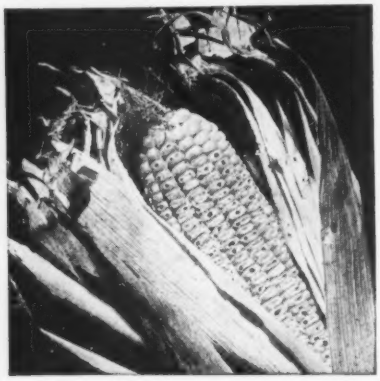
August ★ **U.S.I. CHEMICAL NEWS** ★ 1950

CONTINUED

Stored Grain

Up to the present these losses have only been held in check to a degree by the slow improvement of storage facilities and techniques and by more or less frequent fumigation to keep the degree of insect infestation from getting completely out of hand.



Georgia Snap Corn with husk removed to show weevil damage. 90% of the nutrient value of this corn has been destroyed by the insect infestation, making it unfit for use as animal feed.

Pyrenone Protectants, which can and should be mixed with the grain at the time of storage and before serious infestation has had an opportunity to develop, will protect the grains for a full storage season and quite possibly longer. Full tests on commercial quantities of grain treated and stored under normal commercial conditions have included wheat, corn, barley, rice, and oats, while tests now under way extend the investigation to numerous other crops.

Present economic losses include not only shrinkage (loss in weight due to insect damage) but down-grading of grains due to excessive insect infestation. An additional factor of increasing importance is the highly undesirable presence of insect fragments in flours and meals.

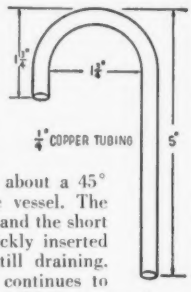
The protection of stored grains against infestation by the direct addition of a protectant material was rendered possible only by the unique combination of qualities possessed by the Pyrenones, namely, effectiveness against virtually all the common grain-destroying insects plus a practically complete freedom from toxicological hazards of any kind. Years of experimental work, which still continues intensively and will for a long time to come, have been required to arrive at the most effective formulations. The net result is the development of these completely new products and techniques which represent an enormous contribution toward the solution of one of the world's worst insect control problems.

Both availability and distribution will be limited in 1950. Pyrenone Wheat Protectant will be available in reasonable quantities for use in Kansas-Oklahoma areas, generally regarded as most serious from the standpoint of insect infestation, and in the Pacific Northwest. Pyrenone Grain Protectant during 1950 will be used mostly on Southern corn wherein infestation and consequent losses are terrifically severe. Ample quantities of both, however, will be available for commercial experiments in other areas and on other crops.

Plans for availability in 1951 are much more extensive and involve manufacture of the Pyrenone Protectants at numerous points selected to best serve areas of larger use. Major production activities will be concentrated in Kansas but supplemental plants in other large consuming areas are being built.

Good to the Last Drip

A pharmaceutical manufacturer reports that use of a handy, easy-to-make gadget for draining drums, particularly those containing expensive tax-paid alcohol, helps him to get more complete recovery of contents. The gadget is a siphon tube made from an eight-inch length of ¼-inch copper tubing. In operation, the small bung in the end of the drum is loosened but not removed and then the drum is tilted to about a 45° angle over a suitable vessel. The bung is then removed and the short leg of the siphon quickly inserted while the liquid is still draining. The siphon fills and continues to run until the last spoonful is recovered.



TECHNICAL DEVELOPMENTS

Further information regarding the manufacturers of these items may be obtained by writing U.S.I.

For removing rust stains on fabrics, a new formulation containing hydrofluoric acid is described as fast-acting and harmless to fabric. **(No. 589)**

To make aluminum as tough as heavier steel alloys, a new hard coating is applied electrochemically in thicknesses from 0.0001 to 0.006 inches, it is claimed. It is wear-resistant and insulates the metal against heat, the makers state. **(No. 590)**

To dispel unwanted odors, a new four watt lamp bulb, operating on household current, gives off just barely noticeable concentrations of ozone and has a mild germicidal effect, according to the makers. **(No. 591)**

A new plastic, claimed to bridge the gap between soft and hard rubber, meets the need for a high-strength material resistant to abrasion and chemicals and capable of production in varying degrees of flexibility. **(No. 592)**

A new, non-toxic wax activator, reported to be an efficient spreading agent for paraffin and microcrystalline waxes, plasticizes paraffin wax and greatly improves penetration of wax into porous materials such as paper and textiles, the makers assert. **(No. 593)**

Two new rust inhibitive white lead pigments, reportedly non-reactive toward vehicles containing free carboxyl groups, are available in commercial quantities. **(No. 594)**

A new caution-label dispenser for marking hazardous chemicals has three different rolls of cellulose tape labeled "corrosive," "poison," and "flammable," each in a different color, it is reported. **(No. 595)**

For quick determination of moisture content of wood and plaster, a new portable instrument is said to indicate per cent moisture direct, at the touch of a button. **(No. 596)**

To fill drums to correct weight, an extremely accurate, automatic, air-operated device is claimed to handle oils, paints, varnishes, chemicals, syrups, and food products. Unit is said to operate rapidly, and flow can be regulated to suit material and operation. Device operates safely under hazardous conditions and one man, unskilled, can handle two units, it is reported. **(No. 597)**

For instant measurement of films such as porcelain enamels, platings, leathers, paints, foils, plastic sheeting, glass, paper, rubber, lacquers, tinnings, etc., a new light-weight, vest-pocket size dry film thickness gauge is claimed to have an accuracy of ± 5% ± 0.0001 inch. **(No. 598)**

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account for this renewed interest. As with other types of shaving preparations, glycerine plays a very useful role in the formulation of the liquid preparations. Typical of their composition is the following as given by De Navarre:[14]

Stearic acid, triple pressed ..	8.4 per cent
Cocoanut oil	8.4 per cent
Caustic potash (100%)	2.5 per cent
Superfatting agent	1.0 per cent
Glycerine	8.0 per cent
Alcohol	3.0 per cent
Water, to make	100.0 per cent

Glycerine finds use even in connection with electric shavers, being used in both preshave and after-shave lotions. A product of the latter type—a soothing and emollient electric razor after-shave cream lotion—may be made along the following lines:[15]

Glyceryl monostearate (self-emulsifying)	3.5 per cent
White oleic acid	2.0 per cent
Glycerine	5.0 per cent
Triethanolamine	0.8 per cent
Menthol	0.1 per cent
Water	81.6 per cent
Alcohol	7.0 per cent
Perfume and preservative ...	sufficient

Melt the glyceryl monostearate with the oleic acid. Heat together the glycerine, triethanolamine, preservative and water to approximately the same temperature and add to the first mixture with high speed stirring. When the temperature drops to 50°C, add the menthol and perfume dissolved in alcohol. Continue stirring until the emulsion is cool.

Hair Care Products

The role played by glycerine in hair-care products hardly requires comment, but it is interesting to note how its use has been extended in newer type or improved compositions. For example, in discussing modern hair fixatives, Jannaway (16) presented the following formula for making a brilliantine cream:

Glyceryl monostearate (self-emulsifying)	9.0 per cent
Cetyl alcohol	1.5 per cent
Mineral oil	25.0 per cent
Glycerine	4.5 per cent
Beeswax	1.0 per cent
Water, distilled	59.0 per cent
Perfume and preservative	sufficient

Another interesting development in the field of hair fixatives is based on special urea-formaldehyde resins. A typical formula for such a non-greasy product is as follows:

The ability of glycerine to suspend insoluble materials in liquids and to impart a desirable smoothness to products makes it extremely useful.

Urea	180 parts
Glycerine	100 parts
Boric acid	60 parts
Solution of formaldehyde	450 parts
Amonia (25%)	180 parts
Distilled water	200 parts

Dissolve the first three ingredients in the boiling water, add the formalin and then the ammonia. Keep the mixture boiling for 15 minutes, stirring constantly. When cold, replace the water lost by adding alcohol (95 per cent) or water to make 1000 parts.

It is said (17) that such preparations are stable and of good fixative properties, giving a fine pliable film on evaporation of the solvent. The film itself is removed simply by washing. If desired, fixatives of this kind may be tinted and perfumed and tonic substances, like pilocarpine or quinine compounds, may be incorporated.

Insect Repellent Preparations

Formulators of newer types of cosmetic specialties have often found it to their advantage to make use of the properties inherent in glycerine. One class of products that has found a wide welcome is the war-borne insect-repellent preparations. Improvements in the cosmetic elegance of such products and in their efficiency have been made during recent years. For example, one group of workers (18) have developed methods for making insect-repellent sticks that are transparent, stable at the extremes of temperature normally encountered, nonfriable, nonbleeding and easily applied to the skin. These sticks have an unusually high proportion of one or two types of active insect repellent, are made with a soap base and contain plasticizing glycerine to prevent brittleness. A typical procedure calls for the following:

Dimethyl phthalate	12.2 parts
2-Ethyl-1, 3-hexanediol	18.0 parts
Isopropyl alcohol (91%)	31.5 parts
Sodium stearate, powdered	20.3 parts
Glycerine	12.1 parts
Distilled water	3.5 parts
Color solution	1.2 parts
Perfume	1.2 parts

A further improvement in the properties of insect repellents was presented quite recently by Coler. (19) He pointed out that repellents applied to the skin in a spotty fashion are no deterrents to insects but merely lead the biting and stinging pests to concentrate on the uncovered areas. To pre-

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vent such "skips" he prepared an insectifugal product which contains a coloring material that vanishes shortly after application to the skin. Illustrating this principle is a dressing which serves simultaneously as a skin conditioner and as an insect repellent. Such a product is made by blending ten volumes of 2-ethyl-1, 3-hexanediol, one volume of a 10 per cent solution of phenolphthalein in alcohol, two volumes of glycerine and two volumes of alcohol and agitating with an excess of powdered sodium carbonate. The undissolved solids were removed by centrifuging.

The resulting product was a somewhat viscous liquid with an intense red color. All of the color disappeared within a few minutes after the dressing was applied to the skin. According to Coler, in addition to providing beneficial effects to the skin, the glycerine also served to intensify the fugitive red color.

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Industry News

Britain Ends Soap Rationing September 10

Or September 10th soap rationing will end in Britain, it was announced on July 10th in the House of Commons by Maurice Webb, Minister of Food. According to Mr. Webb, improvements in the raw material supply position had made this possible and he was announcing the derationing to enable manufacturers to build up stocks.

The Ministry of Food has warned that up to September 10th rationing requirements, including the surrender of coupons must be strictly observed. This, they indicated, is in the interest of the public and the trade because manufacturers must be given time to produce more soap and to build up enough stocks to meet the demand when rationing ends.

Soap rationing in Britain was introduced on February 9th 1942. Increases during the past year have brought the ordinary consumers' ration to the present level of 24 oz. per person for each eight-week period—roughly half the quantity used when buying was unrestricted.

R. E. Huffam, chairman of the Soapmakers' and Fat Splitters' Federation, commenting on the announcement said—"In abolishing rationing the United Kingdom will come into line with the rest of the world. During the war British soapmakers served the country well. Technical resources, imaginative management, and skilled labor overcame the very serious difficulties of inferior raw materials and reduced supply. The nation and the Services were kept clean—and that adds up to quite a lot in the total of national health."

Mr. R. W. Boomer, chairman of the Soap Makers Assn. indicated—"We are naturally pleased to hear of this further relief from restrictions and appreciate the early announcement of derationing. But it is difficult to make any comment in regard to the future of the soap trade until it is known whether or not raw materials are to remain under control."

Reduction in Price of Dial Deodorant Soap Increases Sales

Armour & Co., Chicago, Ill. is reaping greater profits from the sale of Dial deodorant soap since reducing the price from 25 cents to 19 cents per cake due to the substantially larger volume of business. The price reduction followed market tests made by the company. Prior to the annonucement, Packer's Tar Soap Co., Mystic, Conn. had reduced the price of its deodorant soap to 37 cents for two cakes.

Medicated Soap for Treatment of Fungus Infections Offered

What is said to be the only medicated sodium undecylenate soap on the market is being detailed to physicians and chiropodists by the Baldwin Pharmacal Co., Newark, N.J. It is called Mycoderm soap and is recommended for fungus infections.

Lightfoot Schultz Ten Cent Deodorant Soap Going Well

Despite its recent national introduction the new ten cent deodorant soap '24 Hour' offered by the Lightfoot Schultz Co., Hoboken, N.J. is selling well according to reports.

Ready Lathered Shampoo Offered by Helene Curtis

A new ready lathered shampoo is being offered by Helene Curtis Industries Inc., Chicago, Ill. at $1. By pressing a nozzle the pressure dispenser releases a cloud of lather.

Plentiful Supply of Soap and Detergents—Over 1949

The nations largest makers of soap and synthetic detergents state that there is a plentiful supply of both. This year's production will be about 3,500,000,000 lbs. or half a million pounds more than in 1949.

The Problem of Rug Cleaning

The factors which constitute the problem for rug cleaners are the following: detergency (how best to remove the soil) ; prevention of resoiling; retention of the pile in its original condition; prevention of color bleeding; avoidance of odor being left in the rug; and prevention of shrinkage. The methods which have been used by rug cleaners as follows:

Dry Dusting. The rugs are put into a mechanical beater, or subjected to heavy vacuuming.

Shampooing. The rugs are then wet out and worked with a detergent solution. Originally the detergent was soap, but now anionic and nonionic detergents and various combinations are used.

Dry cleaning. This is not so satisfactory for the removal of suspended solids as the water solution, and is also limited by the available apparatus.

Powder Cleaning. The rug is dusted with a powder such as Bentonite Clay or Fullers' Earth soaked up with a dry cleaning solvent so that it is damp to the touch. It is rubbed in with a stiff brush and left in for from four to 12 hours, during which time the solvent dissolves greasy matter and permits it to be absorbed by the clays. The rug is then vacuumed and the clay removed. No rinsing is done in this process. (E. A. Leonard, Indian Textile J., *60*, 428-9, Feb. 1950. Thru. Am. Dyestuff Rep.)

Technical Abstracts

Randolines & Gominas, These are described by the author as concentrated hair fixatives of a mucilaginous type and are mostly of continental origin. A formula given for a pre-war bandoline consists of: Gum tragacanth 1.9 gm., alcohol 2.0 ml., ethylene glycol 5.0 ml., distilled water 58.5 ml., gelatin solution 31.0 ml., dye solution 0.2 ml., perfume 0.9 ml., formaldehyde 0.5 ml. The formaldehyde was 1.2 percent by volume of formalin (40 percent). The exact strength of the gelatin solution is not known, but a 2 percent solution in water is suggested as being suitable for experimentation.

A formula given for a gomina consists of: gum tragacanth 35 gm., Ponceau red (1%) 2 ml., Formalin (35% HCHO solution) 3 gm., Cyclamen type perfume 5 ml. (Thru Perf. & Ess. Oil Record *40,* 125, 1949).

Oil-Water Emulsions: Some Physical Factors Which Determine The Type Of Emulsion. W. Dickinson and J. Iball. Research (London) *1,* Suppl. 614–17(1948).—Two emulsifying agents that together would be expected to give rise to complex formation, and separately would give rise to opposite emulsion types were employed in experiments on emulsions of cyclohexane/water and of mineral oil/water. Sodium laurate was chosen for its ability to promote oil/water emulsions and monoolein water/oil emulsions. Sodium laurate in the concentration used is a poor emulsifier for the cyclohexane/water system, but the emulsion is reversed and the stability improved by addition of a small quantity of monoolein. In mixtures of mineral oil (Nujol), cyclohexane, and water, emulsified with sodium laurate and monoolein, the emulsion type reversed at 50% of Nujol. There appear to be two main factors affecting this phenomenon: the purely hydrodynamic effect of viscosity on the emulsification process, and the effect of increased viscosity of the oil phase in retarding the diffusion of monoolein to the interface during emulsification. The rate and means of mixing and the phase vol. ratios also affect the emulsion type obtained. (Thru C. A. *43,* 2072, 1949).

Sweating patterns in the skin following injections of mecholyl. Walter C. Randall, Isabel Dougherty, and Ronald Deering (St. Louis Univ., St. Louis, Mo.). (*Am. J. Physiol.,* **151**, 576–80, 1947.)—The iodine-starch paper method was used to study sweating responses elicited by intradermal and subcutaneous injections of mecholyl. Patterns of functioning sweat glands after mecholyl injections suggested the participation of cutaneous lymph channels in convection of the drug away from the site of injection. The probability of nervous intervention in the spread of sweat patterns was negated. E. D. Walter. (*Chem. A.,* **42**, 3083, 1948.)

Fundamental Principles of Formation of Concentrated Emulsions of High Stability, L. Ya. Kremnev. Kolloid. Zhur *10,* 18–25(1948).—(1) Highly stable concentrated emulsions of C_6H_6 in H_2O are obtained by the use of thixo tropic mixtures of aliphatic alcohols and sodium oleate, owing to their capacity of rapid restoration of the structures perturbed in the process of emulsification. Wtih the alcohol introduced either into the C_6H_6 or into the 1% sodium oleate solution, the stability of the emulsion increases with the length of the chain of the alcohol. (BuOH, AmOH, octyl, and cetyl alcohol), and with the concentration of the alochol. Addition of 0.1% cetyl alcohol to 1% sodium oleate is enough to insure very long stability of a 60 vol.% C_6H_6 emulsion, and with a greater amount the stability is practically indefinite in contradiction to the observations of Schulman and Cockbain (C. A. *35,* 3140). (2) Thixotropy of the cetyl alcohol—1% Na oleate mixtures was esablished by the degree of reproductibility of the "zero point," i.e. of the viscosity at the lowest pressure after repeated measure. ments under increasing pressures p. By measurements of the relative viscosity n/no (subscript O referring to H_2O) as a function of p, at differerent concentrations c of the ectyl alcohol, the initial anomalous (structural) n is higher the greater c; below c=0.1%, structure formation is wholly absent; up to 1% it is destroyed fairly rapidly, whereas it remains stable at higher c. The thixotropy of the sodium oleate—cetyl alcohol emulsifier is preserved in the concentrated C_6H_6 emulsion, which also shows thixotropic behavior of n. The anomalous (structural) branch of the n/no (p) curve of both the sodium oleate—cetyl alcohol mixture and of the stabilized C_6H_6 emulsion becomes increasingly pronounced as the temperature decreases. (3) With increasing concentration, the surface tension of equiconcentrated solutions of sodium oleate—cetyl alcohol falls more rapidly and below that of pure sodium oleate solutions of the same concentration, owing to the surface activity of the cetyl alcohol. (Thru C. A. *43,* 4923, 1949).

Ambrettolide Isomers, Swiss Patent 224,961 taken out by Givaudan et Cie covers the synthetic preparation of a number of isomers of ambrettolide having a musk ambrettelike odour. The patent covers a general group of compounds of formula: CO. (CH^2)X. CH: CH. (CH_2)y. CH_2 O in which x y = 12 as compared with ambrettolide itself when x = 5 and y = 7. Sodium salts of the unsaturated hydroxy acids are obtained by dehydration of 5,15—dihydroxypalmitic acid and are conddense with glyceryl monochloride. 17.8 gm. of the resulting esters are distilled at 3 mm. pressure and 200°C. after the addition of 30 ml. of a catalyst consisting of 0.3 gm. sodium dissolved in pure glycerin. As distillation proceeds more glycerin is added to maintain the temperature at 200°C. The product, after purification, has boiling point 118°–120°C., specific gravity 0.960 at 20°C., optical rotation 1.480 and saponification index 220.4 (Thru Perf. & Ess. Oil Record *40,* 125, 1949).

Terpenes of oil of sweet goldenrod. Bryant R. Holland. (*J. Am. Chem. Soc.* **70**, 2597–8, 1948).—Miller and Mosely (*C.A.,* **9**, 1771) identified methylchavicol as the main constituent of the oil of sweet goldenrod (*Solidago odora*) and showed borneol to be present. Distillation of the oil gives 15 per cent of d-limonene and about 0.2 per cent l-a-pinene. The borneol is probably the l-isomer. (*C.A.,* **42**, 8422, 1948).

Tooth paste containing fluorides. Dutch 61, 409. (*C.A.,* **42** 7943, 1948.)—The paste contains among the usual ingredients 0.1 per cent NaF or KF and preferably about 1 per cent of a soluble citrate. About half of the fluoride is said to be absorbed by the teeth.

New Packaging and Promotions

Hook 'n Lather

Groping when soaping is eliminated by Seaforth's new Hook 'n Lather Set. A Christmas item, the new set consists of two cakes of Seaforth soap, each with a hole in the center, and a chrome-finish hook mounted on a rubber suction cup. Made by the Alfred D. McKelvy Co., the set is untaxed and costs $1.50.

The Andrew Jergens Co. Cincinnati, Ohio, will probably announce a dentrifrice this year. The company has been experimenting with several types, including a formula which contains penicillin.

Duo Gift of Heaven-Sent Eau de Toilette and Body Powder by Helena Rubinstein is packed in an acetate tube with white plastic

Cylinder duo

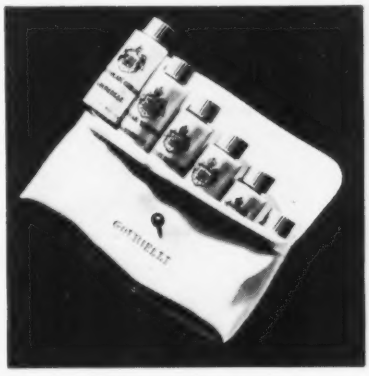
disks on the top and bottom. This decorative combination of two standard packages is topped with a spray of artificial flowers and retails for $2.75 plus tax.

Soft Answer, a cologne made by G. Barr & Co., New York, is packaged in an aerosol spray container. The metal cylinder has a plastic push button on top for releasing the spray and is unbreakable. The cologne sells for $1.50 plus tax.

Wondra, a new facial cleansing product made by Procter & Gamble, is being sold in department stores on the East and West coasts. The product is intended to replace facial soap and cleansing cream and sells for $.60 and $1.00.

Milk Shampoo is the newest addition to the Milkmaid, Inc. line. The shampoo will sell for $1.25 for a 4 ounce bottle and $1.75 for 6 ounces.

Complete Face and Contour Treatment has been introduced by The House of Gourielli, New York. Consisting of two ounce plastic bottles of six different creams



Gourielli treatment combination

and lotions, the set sells for $10.00 in a vinylite carrying case. The cylindrical light blue bottles are topped by ribbed dark blue caps.

A premium deal involving a polyethylene squeeze bottle was recently offered by Jules Montenier, Inc. for Stoppette spray deodorant. Consisting of a razor packaged with the deodorant. This offering indicates that the novelty of the sqeeze bottle has worn off sufficiently so that manufacturers must promote polyethylene containers by other means than the spray feature.

Women's accessories designed to tie in with the increased use of perfume are being sold to department stores by the Milandal Co., New York. Created by Dr. Alex Kojan-

Lapel pins for perfume

sky, head of the firm, the line includes necklaces, bracelets, lapel pins, earrings, and purse holders to carry one-fourth to one-half a dram of perfume. Shown in the photograph are two of the lapel pins with their bottles.

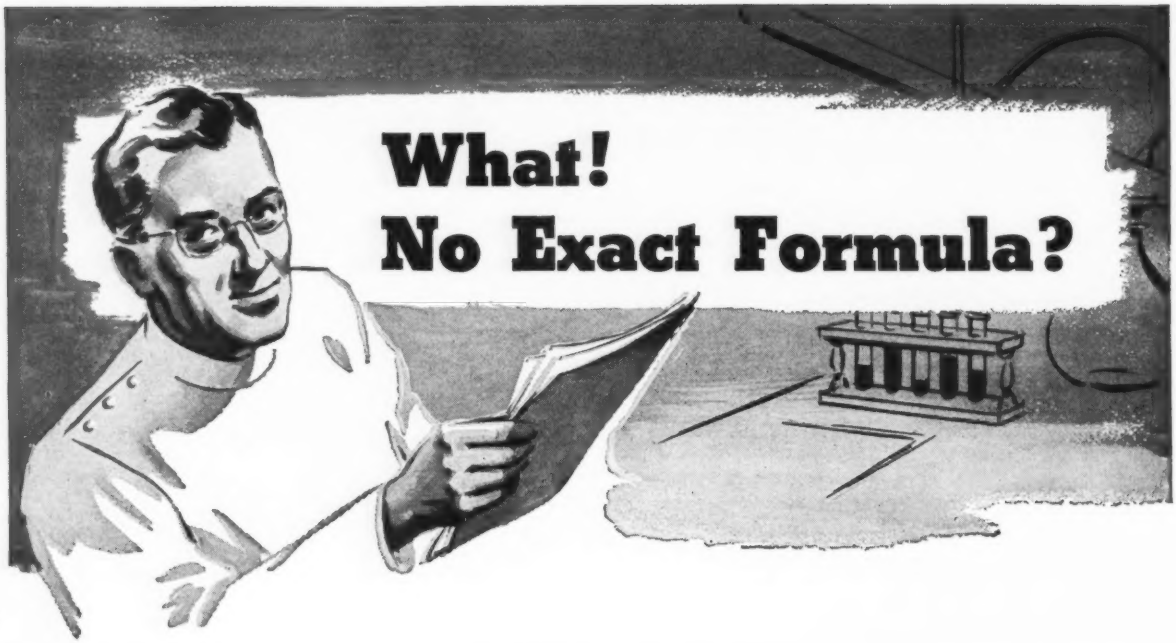
Aquamarine bath powder will be introduced by Revlon Products Corp., New York, in September. Packed in a six-ounce box, it will sell for $2.00 plus tax.

A mirror lipstick is to be marketed by Helena Rubinstein in October. In the shape of a gold telescope, the container has a mirror at the large end. The package sells for $1.50 plus tax.

Toilet water in a quart bottle by Lanvin, New York, is being marketed by the company as a gift item. The bottle contains Lanvin's Arpege fragrance and sells for $37.50, not including tax.

Two new colors for fall have been added to Helena Rubinstein's line of hair color rinses. The shades, "Red Hellion" and "Blue Vixen," are an orange red and a blue. The package contains eight capsules in an acetate-windowed box. Promotion of this $1.00 seller will begin on September 25.

Two for one deal being offered by Helene Curtis is an 89 cent bottle of Shampoo plus Egg free with every bottle purchased.



What! No Exact Formula?

NO, Doctor, there is no scientific laboratory formula for media selection. But experienced space buyers do have an effective and time-proven recipe for the profitable investment of advertising money—reasoning, judgement and experience PLUS THE USE OF FACTS. The basic advertising values of publications are reflected in the facts about their circulations. Also there are definite standards, mutually approved by buyers and sellers of advertising, by which circulations may be uniformly measured. Hence circulation facts, when reported in accordance with these standards, provide a dependable guide to sound advertising investments.

The information that makes it possible to measure advertising values based on circulation facts is given in the reports issued by the Audit Bureau of Circulations, a cooperative and nonprofit association of 3300 advertisers, advertising agencies and publishers. The Bureau has a staff of experienced, specially trained circulation auditors who make annual inspections and audits of the circulations of the publisher members. The factual data thus obtained is issued in the A.B.C. reports which are available to advertisers and agencies for use in comparing and selecting media.

Guesswork and waste in advertising are avoided when media is selected on the basis of the facts in A.B.C. reports. This business paper is a member of the Audit Bureau of Circulations. Ask for a copy of our A.B.C. report.

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Paid subscriptions and renewals, as defined by A.B.C. standards, indicate a reader audience that has responded to a publication's editorial appeal. With the interests of readers thus identified, it becomes possible to reach specialized groups effectively with specialized advertising appeals.

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How the circulation was obtained.
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Where the circulation goes.
A breakdown of subscribers by occupation or business.
How many subscribers renewed.
How many are in arrears.

THE AMERICAN PERFUMER

A.B.C. REPORTS — FACTS AS THE BASIC MEASURE OF ADVERTISING VALUE

Hints for Improving Production

Solvent safety for the small plant . . . Simple suggestions for controlling hazards involved in the use of alcohol and other solvents . . . New and improved equipment for the plant

ACCIDENT frequency and severity rates in small plants are roughly double those of large plants, and the smaller the plant the higher the accident rates, G. E. Johnson, assistant chief of the Division of Industrial Safety of California, recently pointed out.

The small plant owner may be unable to afford a safety engineer charged with nothing but accident prevention, but he cannot afford to be without a safety program, and the owner himself must direct and guide the program. He underscored the importance of safety by pointing out that in the small plant one bad accident can wipe out several years' profits. He stressed also that "Little good is accomplished by safety propaganda in irregular and infrequent doses . . . safety mindedness is achieved only by the constant attention to safety in every phase of the day's work."

Where solvents are used, safety in every phase of the day's work requires:

1. Knowledge of the hazards of the solvent employed. The manufacturer's label usually provides information on these properties. Such information should also be put on any small containers of solvent withdrawn from the original drum so that the facts are kept before workers using these containers.
2. Where solvent is used constantly or frequently, properly engineered systems and equipment to prevent escape of solvent vapor into the working atmosphere and unnecessary wetting of the hands with the liquid.
3. Where solvent is used only occasionally, either personal respiratory protection or suitable temporary ventilating arrangements which will protect workers from the solvent vapor.
4. Control of solvent distribution in the plant so that one person charged with the responsibility of issuing solvent will know who wants it and what for.
5. Regular and frequent servicing of solvent-using equipment, ventilating systems, and personal protective equipment to make sure that all are in good working order.
6. Good housekeeping so that spilling and careless handling of solvents are avoided, accidental spills are wiped up promptly, and solvent-soaked rags or wastes are disposed of in airtight containers.
7. Immediate attention to complaints of discomfort or illness which suggest that there is exposure to solvent vapor or that the individuals complaining may be unusually sensitive to the vapor. Medical examination may prove desirable to verify or refute the cause. It may also be desirable to have an analysis of the workroom air made by a chemist.

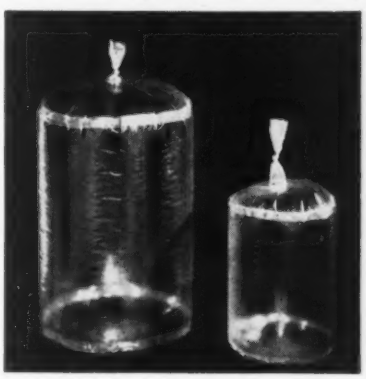
The small plant owner who needs help in setting up a solvent safety program or on periodic checks on the safety of his plant can usually obtain it without charge from his state or city industrial hygiene service.

Improved Mortar Grinder

For a faster, more uniform grind without operator attention Fisher Scientific Co. offers the Fisher improved mortar grinder. A weighted arm holds the pestle and swings it back and forth in the bowl of the constantly revolving mortar. The pattern formed by this double action it is said completely covers the grinding surface. An adjustable scraper mounted behind the swinging head returns the sample into the direct path of the pestle to prevent spillage. A heavy casting protects the motor and permanently lubricated gears from dust.

Liners for Drum Containers

New contoured liners made of Visqueen polymerized ethylene film for steel and fibre drum containers and pails are offered by



Contoured Visqueen Container Liners

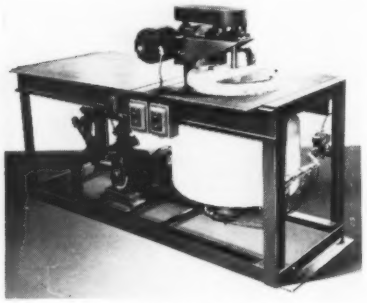
Electronic Wave Products Inc. to resist acid and alkalis and moisture. They come in sizes from 5 to 55 gallons capacity and are made with a tie-off spout with a separate top or with a semi-rigid Flexspout and screw cap. The chief advantage of the liners it is emphasized is in the shipment of hard to handle liquids, semi-liquids and solids as the liners fit exactly into the contours of the outer containers and so prevent strain from being placed on the film. There are no folds or creases and extraordinary strength and efficiency is claimed for the electronic seal used in the manufacture of the liners.

Hand Truck for Janitors

A special hand truck for carrying pails, dusters, soaps, mops and other tools used by a janitor in the office or factory is offered by Lewis-Shepard Products Co. to save steps and lost equipment.

Kettle for Small Batches

A new versatile kettle for laboratory or small batch use is announced by the Chaffee Design & Manufacturing Co. According to the maker's description the kettle is completely self contained in an



Self Contained Kettle

all steel table frame with built in motor to drive the scraper agitator and pump for recirculating or removing the contents. The elements of the batch are loaded into the thickly insulated kettle through a half cover which is held down by thumb screws when closed during the batch run. Thermostatically controlled gas heat operates up to 500 deg. F. The scraper-agitator is driven by a variable speed motor. Under the table top is a pump which removes the contents from the bottom of the kettle through a flush valve. The batch is discharged into a manifold and then to open pans for slow cooling or recirculates the batch back to the top of the kettle or through a strainer for cleaning or a relief valve or to other equipment such as a flaker. Space is provided on top of the table for other equipment that may be required for special handling of batches.

Plastic Paint Coating

To prevent acid attack on steel and the creation of iron impurities, a plastic paint coating known as Tygon is offered by the U. S. Stoneware Co. It is applied just like paint to metal or concrete surfaces and dries to form a tough, flexible inert skin that adheres to the surface.

Gummer When Heat is Needed

A new label gummer which is said to apply adhesive at a carefully controlled uniform temperature to ungummed labels is announced by the King Sales & Engineering Co. The glue pot is surrounded by a water jacket in which the water is heated to any desired degree. The 9-inch gummer is designed for all adhesives which require heat at the time of application to the label surface.

Variable Speed Air Motor

A variable speed power source for a laboratory agitator that is claimed to be spark and splash proof is announced by Leiman Bros. Inc. The use of the motor, it is stated, allows instant and variable speed control. As the viscosity of the agitated liquid increases the agitator r.p.m. are kept constant, it is explained, by merely increasing the air pressure.

Portable Vacuum Fillers

Vacuum fillers are now available mounted on a portable stand for easy movement around the bottling room, according to the Scientific Filter Co. The stand is of bench height so that the unit may be moved into position alongside of any bench where bottling is to take place. The overflow jug is located on a shelf below where, when full, it may be used as liquid supply for the filling of containers. Room is also available on the shelf for another 5 gal. supply vessel for feeding the filling machine.

Selective Delivery Conveyor

Where selective delivery and mechanized conveyor handling is desirable the Wendway selective delivery conveyor system will be found to be highly useful in processing and packaging the Union Steel Products Co. states; for it is engineered to route products through production, packaging and shipping. It is made up of standard units that are assembled in any combination to give flexibility and to make the system easy to install. Each unit is composed

A Three-Tier Conveyor System

of an endless belt of steel rods, linked on the ends to produce a light, strong, closely spaced conveyor. It turns corners, can be slanted up or down, arranged as a single lane or in multiple tiers, runs fast or slow and is easy to maintain, the makers point out.

Air Line Pressure Pump

A new pump with air line pressure offered by the General Scientific Equipment Co. provides safer, more economical and quicker means to remove acids and other corrosive liquids from stainless

Acid Removing Pump

steel containers according to the makers. With the new No. 17 pump liquids flow smoothly and stop instantly and come in contact only with the corrosion resistant tube it is stated. Further details will be given on request.

Processing Literature

For helping to select the most suitable viscometer for any particular purpose, Brookfield Engineering Laboratories Inc. has issued an 8-page descriptive leaflet, adequately illustrated, which will be sent on request.

Alsop makes a good mixing tank better with the new permanently attached all-way adjustable swivel mounting according to a well illustrated circular which has just been issued by the company. Other data on efficient low cost processing is given in the circular which may be had by writing to the company at 500 Adams St., Milldale, Conn.

Air conditioning costs may be cut with activated carbon air purifiers according to the W. B. Connor Engineering Corp. which has issued a 16-page bulletin on the subject. It will be sent on request.

Ribbon mixers and sifters of all types are described in a 16-page pamphlet issued by the J. H. Day Co. The pamphlet contains photographs and descriptions of the various kinds of equipment offered by the company.

A few facts about dehumidification for industry are given in a bulletin issued by the Abbeon Supply Co. which may be had for the asking.

New Products and Developments

New Thermometer Testing Set

To provide very accurate temperature measuring in research and laboratory work a new A. S. T. M. certified thermometer testing set is offered by the Tagliabue Instruments Div. of the Weston Electrical Instrument Corp. The unit comprises nine matched thermometers with overlapping ranges. The instruments are stated to meet all the specifications of the American Society for Testing Materials.

Electri-conomy Typewriter

To prove that manually operated typewriters add to office costs and that typewriter production may be increased from ten to 40 per cent. Remington-Rand Inc. offers an obligation free test with its new Electri-conomy typewriter. Data is supplied so that the businessman may have a personalized assay of the typing procedures in his office. Requests for the Electri-conomy test should be sent in writing.

Polystyrene Anti Static Agent

A new anti static agent for polystyrene plastic, known as D-Stat B, is available from the Roxbury Chemical Works, Inc. It is claimed to entirely eliminate unsightly dust collections due to static attraction and to visibly enhance and preserve the brilliance of polystyrene items. It is odorless, colorless and non flammable and is applied by dipping, spraying or brushing.

New Water Demineralizer

For general laboratory work and for small scale chemical processing the new Hydrion Canister Demineralizers offered by A. E. Tomkin & Co. will be found to be most useful according to the company. With the advent of this canister unit the need for the expensive and cumbersome old type cartridges has been eliminated it is pointed out. The hydrions use disposable refills which when exhausted are discarded from the canister and the canister is then reloaded with a fresh refill charge. No heat, cooling or power is needed. By direct attachment to the water faucet, distilled quality water may be had instantly by simply turning on the faucet it is pointed out.

Christmas Tree Decorations

New and original Christmas tree decorations designed and manufactured by Special Glass Products Co., 10 W. 33rd St., New York, N.Y. are being offered to help manufacturers increase the sales of perfume.

The decorations are in the form of attractively designed and

New Christmas perfume containers

brightly colored bottles, matching other decorations on the Christmas tree. In addition they are supplied in gold and silver finishes.

On the Christmas tree they add much to the appearance of all decorations; and also serve after the tree is taken down as containers for perfume on the dressing table or as purse containers of perfume. Hollow colored plastic patented screw stoppers make it easy to suspend the bottles in appropriate places on the Christmas tree and also provide leakproof bottles. They may be given as gifts direct from the Christmas tree if desired. They also make excellent bridge prizes and other party gifts the manufacturer points out. Full details about them will be sent on request.

Trade Literature

A brochure describing over 700 analyses available on household and automotive chemical specialties has been issued by Chemical Specialties Research Laboratories. Copies with sample reports are available by writing for them.

Food Drug Cosmetic Law Journal formerly known as the Food Drug Cosmetic Law Quarterly is now being issued monthly. In addition to contributing a wealth of data for the solution of problems facing the food, drug and cosmetic industries the journal affords a continuing study of the law and its objectives. A special binder for filing is also supplied. The useful publication is published by the Commerce Clearing House Inc.

Information on mail, telephone, radio and cable message rates and rules with footnotes is contained in a guide to "International communications—message and mail rates and regulations to principal world markets" issued by Exporters' Digest for 50 cents per copy. The information is presented in easy to understand chart form. More than 70 countries are covered.

If you have to mark plastics, fibre, paper, leather or enamel coated metal, hand operated, motor driven or air operated roll leaf stamping presses offered by the Peerless Roll Leaf Co. Inc. afford a simple and inexpensive means of doing so according to the company. A leaflet describing the process and the various types of machines offered may be had for the asking.

Ising standard synthetics and specialties are adequately described in a folder issued by the C. E. Ising Corp., Flushing, N.Y. which will be sent to any one interested.

A guide for retail advertising and selling is now available at Better Business Bureaus throughout the United States and Canada. It is the fourth edition, revised, and contains 34 chapters in its 180 pages. Topics are listed alphabetically and are cross indexed for easy reference. Copies sell for one dollar each.

Let's Look It Up is the title of the complete new 1950 catalog of technical books of the Reinhold Publishing Corp. It describes in detail the books of the company including all of the American Chemical Society monographs. The catalog contains 81 pages and may be had for the asking.

Significant figures indicating market potentials are given in a pamphlet written by Arno H. Johnson and published by the J. Walter Thompson Co. under the title of "Marketing Opportunities in 1950." Charts add much to the value of the pamphlet.

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WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

THE controls and regulations Mr. Truman's "police" action in Korea have imposed upon us obviously will not long remain voluntary. We tried the voluntary system in spots during the last war, and after the war, and we found they worked in spots and intermittently. They burdened some people more than others.

Controls Imposed by Government May Not Remain Voluntary

To get a clear vision of what may come, read HR-2756, the Spence Bill, introduced by the chairman of the House Banking and Currency Committee, at the request of the White House. Mr. Spence wants everyone to know that this bill is not the fruit of his own thinking. Those who have read "The Road Ahead," by John T. Flynn, will recall he outlined the vast powers it bestowed upon the President. It would enable him to determine how much may be produced of any essential commodity, and authorizes him to make up a national production budget which the national economy would be directed to meet, under government plans and compulsions. He may order new factories constructed, he might set up priorities and allocations in materials. Manufacturers would have to get permission to buy materials, and a bureau would decide in what order, and in what quantity each would get theirs. Mr. Flynn pointed out this is the power of life and death over industrial enterprise.

The president would be able to establish maximum prices on materials or facilities or services. Mr. Flynn regarded this as the beginning of the end of the price system, without which a private enterprise economy cannot possibly exist. The president may "make such inspection of the books, records and premises, or property of any person, and make such investigations as may be necessary for the enforcement, or administration of the Act." Flynn comments this is the power of seizure and search upon a hitherto unimagined scale. He regards it as planned economy for industry, which would take our country further along the road to the socialistic planned economy than Britain was five or six years ago. Flynn apparently thinks if, for any reason whatsoever, this law goes on the statute books, the United States will never regain its political, social and economic liberty.

Scarcity of Containers, Alcohols And Other Materials Predicted

The many activities in the many departments and offices and agencies of the federal government, focused on the Korean "police" action, are unmistakably indicative war preparation. Some offices in Washington are open all night with personnel working until two in the morning and resuming their labors at six the same morning. Over in the Department of Commerce, in the section of interest to the readers of *The American Perfumer,* the people employed on matters of concern to the readers are steadily working overtime. There is no doubt the present situation means scarcity in containers of all kinds, paper, glass, metal, plastic, and wood. Alcohol plants, synthetic and otherwise, virtually abandoned since World War II, have been brought back into production on the West Coast and elsewhere. There has been repeated consideration of the plan to use the huge potato surplus to make alcohol. Sugar futures already have reached new highs in various markets. Prices have gone up at different refineries. Rubber prices have caused the resumption of production in idle plants where they make synthetic material.

Steel, iron, aluminum, tin, other metals and various chemicals are expected to be policed. The increase in the defense forces naturally means production of more clothes, already under way; shoes, and other personal equipment for the men and women in the services. New fighting equipment is being made, munitions, new transport facilities, and new communication equipment. The dislocations created by the withdrawal of men from industry to the armed services naturally will cause dislocations in civilian life. It is expected there will be an extraordinary demand for the services of women in industry. The necessity for substantial additions to the food supplies, particularly the concentrated foods required by the forces in action, will again stimulate the need for production of synthetic food materials.

Specialized Creams and Lotions Will be Required

The location of this war in tropical, humid, jungle areas, will require largely expanded specialized creams and lotions to protect the fighting forces from insects and from the effects of the climate and conditions. Also, they will need the camouflage cosmetics which became familiar during the last World War. It is anticipated many

new types of materials will be devised. The need for greatly increased construction for military purposes will absorb large quantities of building materials. This has impelled the president to place a brake on the hectic building activity stimulated by government agencies devoted to low cost housing and similar purposes. Credit and installment buying has been checked by invoking powers of the Federal Reserve Board, and its Regulation W. The one thing the Administration is trying to avoid is any compulsory control over civilian manpower. It is believed such action would cost the Administration many votes in the fall. W. Stuart Symington, chairman of the National Security Resources Board, has had exploratory conferences with the committee composed of the heads of all the national unions. Symington has been one of the most busy men in the capital. He is seen more at the White House than any other official. He has conferences with groups of businessmen virtually around the clock. It is his business to make mobilization plans, but not to put them in operation. He reports them to the President, and the President recommends them to the Congress, which is expected to provide the activating and enabling legislation.

Health Products Division in Two Chemical Units

Secretary Sawyer's Department of Commerce organizational quicksands have further evolved the effect of a chemical setup under Charles C. Concannon, known as the Health Products Division, which has been subdivided into a pair of twin units named Organic Chemicals and Inorganic Chemicals. The materials of interest to the readers of *The American Perfumer* come under the Organic Chemicals section which is headed by Dr. Lowell B. Kilgore. Your old friend, Lester A. Barber, has essential oils and some of the other materials. Associated with Mr. Barber, as coordinate officials, are Miss Emma Schutrumpf and W. L. Amos, both of whom have long worked on the problems of the industry. The demands on this trio at this time are enormous. Under present circumstances, the policy of the department attenuates the staff to the last possible reduction. Undoubtedly, however, with the billions the President receives to prosecute the military action in Korea, those parts of government immediately affected will be given the means to expand.

Action on Trade Practices Rules Not Likely Until Next Year

There seems no likelihood the Trade Practice Rules of the toiletries industry will come up for further discussion with the Federal Trade Commissioners until sometime early next year. Commissioner John Carson is directly in charge of matters pertaining to the industry. Congressman Wright Patman (D., Tex.), chairman of the most recent House Small Business Committee, and author of the Patman Act, as well as other members of the House, are convinced the problems of the industry will not be solved until a new law is enacted which will legalize the logic of the supply of demonstrators and advertising services. It is expected some solution will be worked out satisfactorily to everyone, which will be incorporated in an enabling law, and may be discussed at the Trade Practice Rules Conference in 1951.

The various hearings of the cosmetic, toiletries, and perfume cases, well known to the industry, are expected to be held November 6, 7, 9, 13 and 14. These hearings, probably to be held in the presence of Commissioner Carson, and possibly Commissioner Meade, should be clarifying. The investigation of the Federal Trade Commission, apparently chiefly incited by Congressman Patman, under the present war conditions, are expected to slow down, and probably fade out. The Federal Trade Commission has had Congressman Patman's Small Business Committee investigators in its office for a considerable time past. Patman, as the champion of the retailer, and the protector of those who might be injured by anything like fixed prices, or basing points, has apparently sought to discover whether or not proceedings of the Federal Trade Commission have been more friendly to big business than to small business. Mr. Patman has a sure instinct for drama in relation to politics. Under more favorable circumstances, this investigation undoubtedly would have eventually attracted national attention. Unfortunately for Mr. Patman, the Korean war has smothered public interest in Mr. Patman's war with the Federal Trade Commission. In the case of a trial of a sales company, selling an automotive device, the FTC trial examiner recently made what is called the initial decision, which involved a cease and desist order; hitherto such an order had to be confirmed by the entire Commission before it became effective.

New Procedure of Federal Trade Commission

Under a new system of procedure, the decision becomes effective without further recourse thirty days after service on the defendants, unless the defendants filed an appeal, or the Commission stays the effective date, or the Commission orders the case placed on its docket for review.

The FTC, in effect, reversed itself when it recently cancelled an order to Gustave Goldstein, 303 Fourth Avenue, New York, requiring him to stop advertising certain claims about six cosmetic preparations, a skin bleach, shaving powder, a depilatory, hair coloring and two hair dyes. The original order was issued April 27, 1945. Supplemental evidence was accepted last year, and in the review the Commission found that the skin bleach, the shaving powder and another compound were not potentially dangerous by reason of certain ingredients they contained. The ingredients named were ammoniated mercury, certain irritants, and pyrogallic acid.

Imports of Gums and Essential Oils in First Quarter of 1950

The Department of Commerce reports gums and balsams, the first three months of 1950, totaled 6,389,415 pounds imports. Of this total, aromatic gums amounted to 195,860 pounds, mucilaginus gums, 6,093,366 pounds. The balsams totaled 100,189 pounds. In every instance we received more of these materials in 1949 than in 1950 for the same period. The total of essential oils imported during the first three months of 1950 totaled 2,837,735 pounds, approximately 700,000 pounds more than in 1949. The increase was in the quantity of bitter almond, bergamot, camphor oils, ylang ylang, caraway, cedar leaf, cinnamon leaf, cinnamon, citronella, clove, geranium, juniper, spike lavender, lemon, lemon-grass, neroli, origanum, palmarosa, patchouli, peppermint, petitgrain, pine needle, rose or otto of rose, rosemary, thyme, vetivert and miscellaneous oils.

THE ROUND TABLE –

Swiss Selling Perfumes and Cosmetics in World Market

The U. S. Department of Commerce reports the Swiss are shipping considerable perfumery and cosmetics to the United States for which they received, in 1949, 25,385,519 Swiss francs, which came collectively from the United States, the United Kingdom, Italy, Germany, France, Spain, Soviet Russia, Brazil, Mexico and Argentina. The Swiss also sold a sizable volume of their products to India, Turkey, Belgium, Luxembourg and Venezuela. During 1950 for the period ending May 1, the Swiss exported perfumery and cosmetics valued at 6,800,000 Swiss francs. We took the least.

The United States Tariff Commission reports that imports, in 1949, of finished coal-tar products, which came almost entirely from Switzerland, with a very minor quantity from the United Kingdom and Germany, declined in value to $20,000 in 1949 from $49,000 in 1948.

Tin from Belgian Congo Added to U.S. Stockpile

Under a contract signed by ECA with Compagnie Geologique et Minere des Ingenieurs et Industrial Belges tin from the Belgian Congo will be added to the U. S. stockpile. Mining machinery will be purchased in the United States and payment for it will be made in tin. Tin mines in the Manono area will be developed.

Clinic on Careers in Cosmetic Industry at C. C. N. Y.

Career clinics at the midtown business center of the College of the City of New York, 430 W. 50th St. will be held from 2 to 8 p. m. Sept. 6, 7 and 8. Additional sessions will be held at the City College Commerce Center, 17 Lexington Ave., from 6 to 8 p. m. Sept. 14, 15, 18 and 19 and from 11 a. m. to 1:30 p. m. Sept. 16. Among the business fields in which advisors will be available are drugs and cosmetics. The clinics are offered as a free public service. Every person attending may have an individual, private interview with a leading business expert in the fields of cosmetics and drugs.

New Breath Deodorizing Tablet Put on Market by Stoppers, Inc.

Stoppers Inc., New York, N.Y. is introducing a new breath deodorizing tablet.

Chain Store Sales in Same Proportion as 21 Years Ago

Chain stores account for almost precisely the same proportion of total retail sales they did in 1929 according to *Chain Store Age*.

Colgate-Palmolive-Peet Co. to Expand Television Activity

Colgate-Palmolive-Peet Co., New York, N.Y. is considerably expanding its television activity without an immediate curtailment of expenditures in other media. The new Comedy Theatre will be the leading attraction with football broadcasts and other programs also arranged.

Pedinol Introduces New Cosmetic Preparations

Pedinol, makers of ethical pharmaceuticals, New York, N.Y. are to introduce two new items: Hydrisinol, a hydrogenated, sulfonated castor oil creme for multi-purpose beauty use and shufung, a fungicide deodorant liquid in an aerosol bomb, reports the *Drug & Cosmetic Newsletter*.

Present at the opening of the new Los Angeles plant of the Warner-Hudnut Co. were (left to right) Raymond Lee, Lee Pharmacal Co.; Elmer H. Bobst and Henry R. Herold, Warner-Hudnut; and John Roosevelt, Lee Pharmacal Co.

Sales Plans for Next Six Months Made by Hudnut

Sales plans for the next six months for Hudnut, Chen Yu and Courtley were made and outlined to 98 sales representatives from the United States, Canada and Hawaii by Richard Hudnut, New York, N.Y. at the 31st annual meeting of the sales force in the Hotel Astor, New York, N. Y. July 10-12. The holiday lines, new products and promotional plans were presented. Speakers were Elmer Bobst, president; Robert J. Davis, executive vice president of Warner-Hudnut; Charles A. Pennock, president of Hudnut Sales Co.; Gerard S. Fowler vice president and advertising director; Irving Linnard, merchandise manager and Dr. Donald Powers, research director. Gerard Fowler presided. Much enthusiasm was manifested by those present, who look forward to a record year.

Robert E. Felton Catches Record Sized Marlin

Quite in line with his usual practice of doing things in a big way, Robert E. Felton, western manager of the Felton Chemical Co. recently caught what may prove to be the largest marlin ever hooked by anyone associated with the cosmetic and its allied industries. Fishing off La Paz, Baja, Calif. which is about 900 miles south of Los Angeles where his office is located, Mr. Felton caught three marlin in six days. The largest one was a 157 lb. monster. Mr. Felton says that the boat he fished on, the Christina, hung up an enviable record of success it being the only boat to account for a marlin per day for seven consecutive days.

Howard Wilson New General Sales Manager for Lady Esther

Howard Wilson has been appointed general sales manager of Lady Esther Ltd., Chicago, Ill. for the United States and Canada. He was formerly with Ruthrauff & Ryan, advertising agents, Among his first tasks will be that of directing the promotion and sales campaign of "Hands-Up" a complexion cosmetic for the hands that is claimed will not rub off. It will be distributed nationally in September.

Natone Co. to Offer Chlorophyll Body and Breath Deodorant

The Natone Co., Los Angeles, Calif. is to offer a breath and body deodorant on the chlorophyll principle and a new hair treatment at a popular price for home use. E. M. Stolaroff operates the Natone Co.

Soap Sales for First Half of Year Down 11 per cent

Soap sales for the six months of 1950 were down 11% from 1949. This decrease was more than made up by the increased sales of synthetic detergents with the combined total of both up nearly 4% according to Roy W. Peet manager of the Assn. of American Soap & Glycerine Producers. The association soap census showed non liquid soap sales of 1,117,310,000 lbs. Sales of synthetic detergents were 521,903,000 lbs. Liquid soap sold totalled 2,220,000 gallons.

Houbigant Holds Sales Meeting in Virginia

Houbigant Sales Corp., New York, held its annual sales convention recently at The Tides Inn, Irvington, Va. Houbigant execu-

Pierre Harang at the recent Houbigant sales meeting.

tives and sales staff members discussed promotion plans for the firm's 175th anniversary celebration to be held October 9 to 21. Pierre Harang, vice president of Houbigant, presided at the convention.

N. W. D. A. Meeting on a Pay-as-you-go Basis

The meeting of the National Wholesale Druggists Assn. at the Waldorf Astoria, New York, N. Y. Sept. 16-21 will be run on a pay as you go basis. Attendance at all functions will be limited to those who register and pay the full $50 fee. For ladies the registration fee will be $25. Four business sessions are planned.

Society of Cosmetic Chemists to Meet in New York Dec. 6

The regular annual meeting of the Society of Cosmetic Chemists will be held at the Hotel Biltmore, New York, N. Y. December 6. An interesting program of technical papers is being arranged under the direction of Dr. Kenneth L. Russell. Communications concerning the technical papers should be addressed to him at the Colgate-Palmolive-Peet Co., 105 Hudson St., Jersey City, N. J.

Keith Porter to be Sales Manager for Harriet Hubbard Ayer

Keith Porter is to be sales manager for Harriet Hubbard Ayer, Inc. New York, N. Y. The appointment was made in recognition of his work with Harriet Hubbard Ayer Ltd. of Canada.

Toni Produces Its 100 Millionth Wave Kit

The Toni Co., Chicago, Ill. produced its 100 millionth Toni home permanent wave kit at its St. Paul, Minn. plant July 19. The company was founded by R. N. W. Harris July 17, 1944 and its phenomenal growth is one of the outstanding successes in modern business.

Coty Sends 14 Winners in Prize Contest to France

Miss Louise Bruel, director of the supervisors' staff of Coty Inc. New York and 14 prize winners in the 1950 sales contest are in France for a month as the reward for making outstanding sales records. Philip Cortney, president of Coty Inc. was at the dock to bid the party bon voyage when it sailed July 26. A week will be spent in Paris and later ten days will be spent in the essential oil district in Grasse.

Oscar Kolin Looking Over Foreign Oil Situation

Oscar Kolin, president of the Fragrance Foundation and an executive of Helena Rubinstein, New York, N. Y. is in Grasse, France obtaining first hand information of the production of natural floral oils.

Neuschaefer Offers Novel Nail Polish Remover

A new nail polish remover which has a brush fastened on the base inside the bottle so that a woman may stick her finger in it and turn it around to remove nail polish is being offered by Helen Neuschaefer.

Department Store Sales and Profits Down in First Quarter

For the first three months of this year dollar sales of department stores were 5% below the level of 1949 and specialty stores experienced a 10% decline, according to the National Retail Dry Goods Assn. The number of transactions in department and specialty stores was off 4% from a year ago. According to the Harvard Bureau of Business Research department store dollar volume in 1949 was lower than in the preceding year for the first time in 11 years. Earnings after taxes were a little over three cents on the sales dollar, lowest since 1938. Small stores were hardest hit by sales declines. The net operating ratio was 63% below 1948. Earnings after taxes fell to slightly more than two cents on the consumer's dollar.

Imports of Essential Oils From Russia Include Bulgarian Rose

It is particularly interesting to learn that the Soviets sent to the United States, as certified on invoices on April 3, 1950, rose oil in the quantity of 35 kilograms worth $33,442; pine needle oil, 5,924 kilograms worth $26,123; coriander oil, 400 kilograms worth $14,000. The rose oil came from Bulgaria via Russia; the two others were products of the Soviets. The Department of Agriculture of Paraguay, in cooperation with individual essential oil distillers, has made plans to import stock to plant lemon grass and citronella in various appropriate areas. None of these products are existent in Paraguay. From Ceylon, another new nation carved out of the British Empire, we have received quantities of citronella, cinnamon leaf, and cinnamon bark oil.

During the first quarter of the year, the United Kingdom exported 171,777 pounds of essential oils having a value in excess of $350,000. During the same period, the United Kingdom imported essential oils to the extent of 1,189,121 pounds worth approximately $3 million. The Dominican Republic reports a 9 per cent increase in the imports of toilet preparations, 77 per cent of these imports, valued at $307,413 coming from the United States. These imports consisted of dentrifices, toilet waters, lotions, hair preparations, face paints, eyebrow and eyelash pencils, rouge, cosmetic and depilatory preparations, nail polishes, talcum powder, face powder, body powders, dusting powders and bath powder.

Robinson, Wagner Announces Staff Changes

The Robinson, Wagner Co., manufacturers of lanolin and its derivatives, Mamaroneck, N.Y. recently announced several promotions and additions to its staff. John C. Robinson, a director of the company since 1944 has been named vice-president in charge of production. A graduate of Sheffield Scientific School at Yale University, he was formerly engaged in research and development work. James C. Pickard has been elected secretary and a director of the firm. He has been with the company since 1945 and is a graduate of Bard College as well as a former officer in the U.S. Army.

John C. Robinson

Arthur A. Mulligan was appointed assistant to the president and assigned to market research. He is one of the founders and first president of the Cosmetic Industry Buyers and Suppliers. A graduate of Fordham University, he was formerly with Lehn & Fink Products Corp. for 10 years. Also announced was the appointment of Robert C. Marshall as sales representative for the Philadelphia area.

Imports of Perfumery and Cosmetics of $1,347,531 in 1949

Commerce Department now reports that we imported last year perfumery and toilet preparations valued at $1,347,531, which is 3 per cent less than in 1948. Iraq, last year, exported 4,961 tons of licorice root The Ethiopeans, last year, bought from us, and others, approximately 1,400 pounds of essential oils. During March of 1950, the Indonesians sent us 12 metric tons of citronella oil, the total for the first three months of the year being approximately 1,000 pounds at a value of something over $100,000. From Shanghai, during February of 1950, we received 7,800 pounds of menthol, valued at $64,710. Canada reports it bought from us, in 1949, some 789,000 pounds of essential oils, 3,000 pounds eucalyptus oil, 52,000 pounds peppermint oil, 109,000 pounds lemon or orange oils and 29,000 pounds spearmint oil.

Deodorant to be Taken Like a Vitamin Announced

Nullo tablets made by the DePree Co., Holland, Mich., are new breath and body deororants which are taken internally like a vitamin tablet. It is claimed that they control breath and body odor up to 12 and 18 hours. The principle is a concentrated chlorophyll derivative discovered by Dr. F. H. Westcott.

William H. Kennedy of Revenue Department Retires

William H. Kennedy, Assistant Deputy Commissioner of Internal Revenue retired on July 31, 1950 following 38 years of work in the Bureau. A member of the Alcohol Tax Unit, he was a specialist in the administration of the industrial alcohol and beverage liquor laws.

Arthur A. Mulligan

Robert C. Marshall

Joseph C. Pickard

Chain Store Directory for 1950 Now Out

The National Assn. of Chain Drug Stores of the U. S. has issued its 1950 directory covering 474 chains operating 4,768 stores. Headquarters, buyers and officers and addresses of the stores are given.

Misbranding of Estrogenic Hormone Creams

The Federal court in case 3034 has entered a decree of condemnation against a shipment of two types of hormone cream together with circulars because the following statements in the labeling were held to be false and misleading: "To help freshen the appearance of faded and aged skin." "These ingredients contain the glandular oils present in young skins which day by day diminish after 30 years of age. It helps to erase throat lines, neck lines and eye lines—and helps stimulate undernourished skin and flabbiness on the face, neck or any part of the body." "It helps to remove eye lines, age lines. It helps to firm up sagging muscles, double chin and crepey throats; it helps to stimulate undernourished skin and brings back fresh and youthful glow to faded face and neck skin," and "helps to erase eye lines, large pores and skin impurities."

War Causes Packaging Institute to Change Its Meeting Program

On account of the Korean crisis and its possible expansion the Packaging Institute has changed its original plans for the program at the twelfth annual forum in the Commodore Hotel, New York, Oct. 23-25. A part of the program will be devoted to packaging problems arising from the war and the balance will be given over to normal packaging problems. Military needs are being studied by the Institute.

Inventory Control Order Expected After Defense Law

After the Defense Production Act is enacted by Congress it is expected that the first type of control order will be issued limiting supplies of scarce or strategic materials which civilians may stock. The Office of Industry and Commerce, Dept. of Commerce is expected to administer the control act dealing with priorities and allocations of materials.

Pearson Pharmacal Co. on Chlorophyll Deodorant Bandwagon

Pearson Pharmacal Co., New York, N. Y. is offering a new breath and body chlorophyll deodorant tablet to be taken internally.

American Coating Mills Appointments in New York Office

Donald R. Earl and Richard W. Lindquist have rejoined the New York office of the American Coating Mills, division of Owens-Illinois Glass Co. Mr. Earl covered the New York and New England territories from 1934 to 1944. Mr. Lindquist was with the company for five years before World War II. After that he was associated with the Pepsi-Cola Co. for a few years.

Norda Wins Award for Excellence of Its Advertising

Norda Essential Oil & Chemical Co., New York, N.Y. was honored July 31 when the National Industrial Advertisers Association award for 1949 for outstanding excellence in the planning and execution of its advertising was presented to it. It was the first time an essential oil advertiser has ever won such an honor. Norda won second place against long established and much larger companies which spend millions in industrial advertising. Exactly 206 such advertisers were entered in the competition and Norda won second place. The effective advertising of the company appears in the AMERICAN PERFUMER.

The award was presented at a luncheon attended by editors and managers of numerous industrial publications at the Advertising Club. Blaine Wiley executive secretary of the association presented the award which was accepted by William H. Rowse, vice president of Norda Essential Oil & Chemical Co. In his acceptance Mr. Rowse paid tribute to the skilful and conscientious work of the Fred Gardner Co. Inc. the agency which handles its advertising.

Presentation of Award. Fred Gardner, president, and Ralph Bennett, vice president, of Fred Gardner Co. Blaine Wiley, executive secretary N.I.A.A. and William Rowse, vice president, and E. E. Benedict, sales manager, Norda Essential Oil & Chemical Co.

BIMS Member-Guest Golf Tournament August 22

The member-guest golf tournament of the BIMS will be held at the Winged Foot Golf Club, Mamaroneck, N. Y. August 22.

Amazing Case of Allergy Leads to Marriage Annulment

The two year marriage of Mrs. Joyce G. Holdridge to Nolan H. Holdridge of San Francisco was annulled by the court after she testified that she spent most of her time in the hospital. The condition was diagnosed as neuro-dermatitis due to her being allergic to her husband. It was felt that there was no cure. It seemed that she broke out with a rash whenever she was in close association with her husband. There were no complaints about her husband's conduct.

Packaging Expert Visits Old Home in Prince Edward Island

H. R. M. Gordon, the packaging expert and manufacturers representative in New York, N. Y. is visiting his old home in Prince Edward Island, Canada for the first time in over three years. While on his vacation he also went all through Nova Scotia.

Standard Specifications for Indian Castor Oil Drafted

Draft specifications for castor oil for industrial purposes have been made by the Castor Oil Subcommittee of the Indian Trade Commission.

Plans for 50th Annual Meeting of D. C. A. T. Sept. 21-23

Plans for the 60th annual meeting of the Drug, Chemical & Allied Trades Section of the New York Board of Trade at Shawnee Inn, Shawnee-on-Delaware, Pa. Sept. 21-23 are rapidly nearing completion. Chairman Harold C. Green has appointed 13 committees to cover all phases of the coming meeting and to insure its complete success.

Beauty and Barber Manufacturers Assn. Meeting

Every indication points to a record meeting of the National Beauty & Barber Manufacturers' Assn. at the Stevens Hotel, Chicago, August 18. Papers are to be read by E. R. Gauley and John V. Ryan and there is to be a discussion of government controls. Philip Parker will also report on National Beauty Salon Week. The National Beauty Trades Show will be held at the Hotel Statler, New York, August 27-29 National Beauty Salon Week is October 22-29.

Stanton Chemicals Co. Distributing Basic Materials

Stanton Chemicals Co., Philadelphia, 2, Pa. which was recently organized announces that it now has available for the cosmetic and beauty industries basic materials for shampoos, cold waves and related products. The company announces that it is prepared to create products to help solve problems encountered in the making of hair and allied preparations.

Cosmetic Advertising in Newspapers in 1949 Over $30 Million

Advertising of cosmetics and toiletries in newspapers in 1949 was a little over $30,000,000 according to the American Newspaper Publishers Assn.

Among Our Friends

HARRY C. SCHAACK has been appointed national syndicate sales manager for the Pepsodent division of Lever Bros. Co. He is succeeded as St. Louis divisional sales manager by FLOYD C. BRADLEY.

J. LESLIE HINDLE, head of Standard Synthetics Ltd., London, England, flew to the United States July 19 for a brief stay in New York where he conferred with executives of Berje Chemical Products, Inc., American agents for his company. Mr. Hindle reported that his son John Paul Hindle, who is known in this country, was awarded a medal as a member of one of the crews of St. Pauls School, London, which won every race in the Henley regatta this year. Presentation of the medals was made by Lewis Douglas, American ambassador to the Court of St. James's.

WILLIAM HOLMES, former general manager of Jacqueline Cochran, New York, N.Y. resigned to become president of McCreery & Co., August 1.

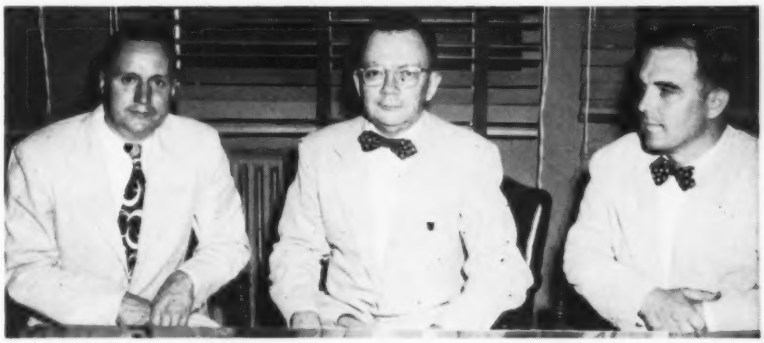
DR. VICTOR FOURMAN, Syntomatic Laboratories, New York, N.Y. has been enjoying a business and pleasure trip to Central American countries. Some time was spent in Guatemala after which he went to Honduras.

DONALD S. CUSHMAN who has been associated with Innis, Speiden & Co. for 22 years has been appointed vice president in charge of sales.

GERALD N. D'AMICO has been appointed manager of the Boston office of Fritzsche Brothers Inc. succeeding the late Harry P. Bowra. Mr. D'Amico was former assistant to Mr. Bowra and to his predecessor M. J. Niles prior to the latter's transfer to Chicago. He is an alumnus of the Massachusetts College of Pharmacy and during the war served in the Pacific with the marines.

MARTIN REVSON, vice president of Revlon Inc. is to address the New York Sales Executives Club Sept. 26 on the subject "There's Millions in Other Peoples' Hands."

PAUL N. SPERRY and ARTHUR L. DOWLING have been appointed to two new sales management posts at Dodge & Olcott, Inc., New York. Mr. Sperry was made sales manager and Mr. Dowling, advertising and sales promotion manager. Both men will work with Charles O. Homan, vice-president in charge of sales.



Paul Sperry (left) and Arthur Dowling (right) shown with Charles A. Homan

EDWARD B. COYLE has been elected vice president of Fels & Co., Philadelphia, Pa. He has been with the company since 1908.

MAX BROWN, general sales manager of Fels & Co., Philadelphia, Pa. who has been with the company for 23 years has been elected a director of the company.

JEAN-PIERRE WEIL of Parfums Weil, Paris, France, was the author of an interesting article "The Anatomy of a Perfume" which appeared in a recent issue of Science et Beaute. Mr. Weil is scent tester and chemist at the Paris laboratories of the company. In the future, it is announced incidentally, Parfums Weil Paris Inc., New York, N.Y. will import all of its merchandise from Paris.

W. H. LUCKING has been appointed assistant sales manager of Antara Products, General Aniline and Film Corp.

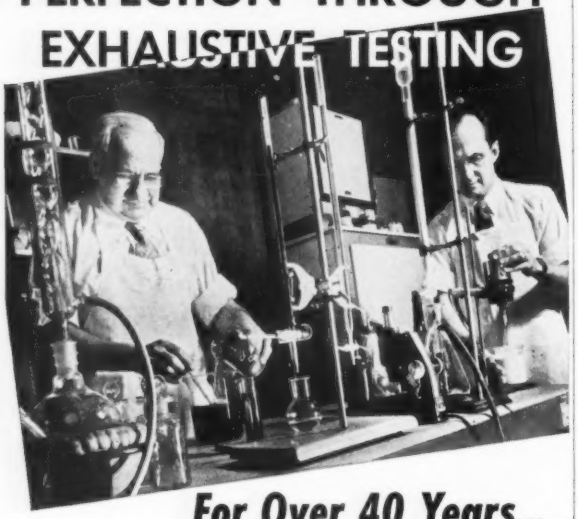
DOUGLAS J. KING has been appointed assistant to Q. S. Ball manager of the professional products division of Heyden Chemical Corp., New York.

ARCHIBALD R. R. GRAUSTEIN JR. has rejoined the Lever Bros. Co. New York, N.Y. as director of market research. He first joined the company in 1937.

FORMULA CREATION

...Development...

PERFECTION THROUGH EXHAUSTIVE TESTING



For Over 40 Years...

Kolar service to its hundreds of clients among cosmetic distributors has been based upon thoroughgoing chemical research and painstaking testing . . . of raw materials, methods and finished products.

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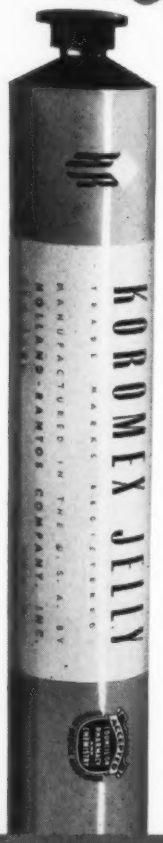

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ROBERT P. SMITH has joined the Kraft Chemical Co., Chicago in the sales division. A chemical engineering graduate of Purdue, Mr. Smith will specialize in soaps, fatty acids and oils.

CHARLES E. WHITTEN was elected president and general manager for Gair Company Canada Ltd, Toronto, at a recent meeting of the firm's board of directors. He succeeds George W. Brown who died June 1.

DR. KENNETH MORGAREIDGE was recently appointed chief chemist for Food Research Laboratories, Inc. He is well known for his work on procedures for the the assay, stabilization and control of vitamins.

THOMAS G. FLAVELLE, a director and assistant secretary of Innis, Speiden & Co., New York, recently retired from the company after 41 years of service.

Obituary

Ralph S. Swinton

Ralph S. Swinton, chief chemist for W. J. Bush & Co. for 41 years died July 21 at the age of 78 years. He retired in 1940 because of ill health.

Mr. Swinton was recognized as one of the leading essential oil chemists in the United States and was in charge of the laboratories and factory of W. J. Bush & Co. in Linden, N.J. from the date of its inception.

He was a native of Scotland and was graduated from the Herriot School in Edinburgh soon after which he joined the organization of W. J. Bush & Co. Ltd. in London. He came to the United States in 1901 to take charge of the Linden, N.J. plant which was opened in that year.

In 1926 Mr. Swinton was elected a member of the board of directors, a position he held until his retirement.

During his many years of service Mr. Swinton witnessed and took a leading part in the development of the essential oil industry in this country. He was recognized as an authority on terpeneless and sesqui terpeneless citrus oils which he pioneered in developing commercially. He also did considerable work in the development of natural flavors.

Mr. Swinton is survived by four daughters, a son and ten grandchildren.

Harry P. Bowra

Harry P. Bowra, for many years representative of Fritzsche Brothers of Canada, Ltd., and since October 1948, manager of the parent company's Boston branch died recently at the Peter Bent Brigham Hospital in Boston. Mr. Bowra, who was 38 years old, was best known throughout the firm's Canadian territory which he had covered for thirteen years prior to his transfer to New England where he was just beginning to establish himself at the time of his death. His wife, mother, two brothers and two sisters survive him. Services and interment were in Paterson, N.J.

William C. Bainbridge

William C. Bainbridge, who was associated with H. Kohnstamm & Co. for 44 years, died early in July. He did notable work in color research and was largely responsible for the development of certified colors. He was an instructor in the Polytechnic Institute of Brooklyn of which he was also an alumnus.

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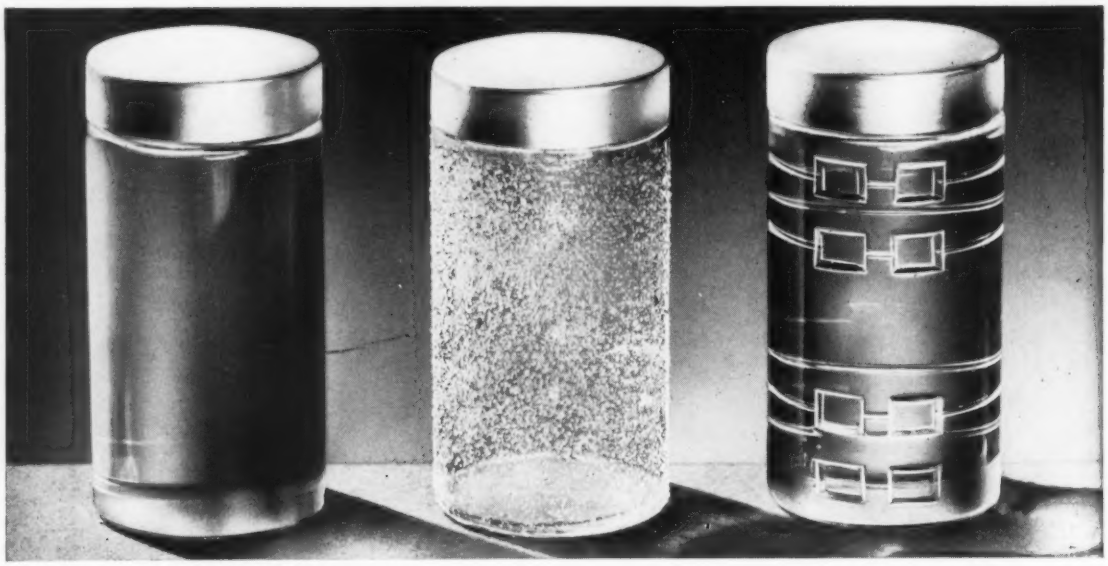

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Florida Persian Seedless Lime Oil

(Continued from page 128)

The physical and chemical properties of 15 samples of coldpressed Persian lime oil and 11 samples of distilled lime oil have been determined and are presented.

The quality of coldpressed Persian lime oils as indicated by their physical and chemical characteristics is determined by the yield of oil obtained from the peel. The quantity of aqueous-phase that comes in contact with the oil during processing has a marked effect on the aldehyde content.

Processing methods and techniques have an influence on the quality of distilled Persian lime oils.

Acknowledgments are made to the commercial processors and manufacturers in the State of Florida whose earnest cooperation contributed much to the success of this work. Coldpressed and distilled oil samples used in this study were obtained from Essential Oil Producers, Inc., Dunedin, and Fraser-Brace Engineering Company, Tampa.

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A Decade of Opportunity

PROSPECTS for the cosmetic industry are bright for the next ten years, according to data compiled by the Twentieth Century Fund. By 1960 the population should reach 160 million. Average family income should be $4029 as against the present average of $3646. Studies of family expenditures show that as income increases more dollars are spent for personal care.

For whom are prospects brightest? The big rewards will go to those who see the opportunity most clearly and plan wisely to take advantage of it. Their plans will include the things that have always been important: Maintaining product leadership in their field; providing items that people want at prices they can afford to pay; and telling people what they have to sell.—*Life.*

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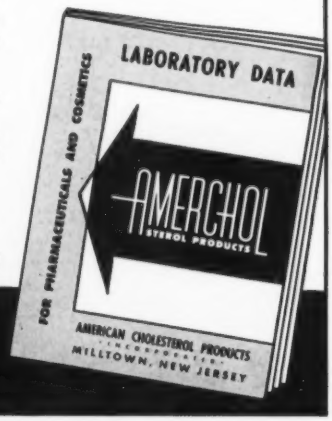

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Market Report

Scare Buying Causes Materials Rise

RAW materials for perfumes, cosmetics, soaps, and flavors became highly sensitive toward the close of last month due to the turn of events both at home and in the Far East. The government's announcement to boost synthetic rubber production immediately brought about a flurry in benzol from which synthetic phenol is produced. This was followed by an increase of two cents a pound in the price of synthetic phenol.

Benzol and Glycerin Tighter

The current shortage of benzol estimated at between 15,000,000 and 20,000,00 gallons will in some measure be supplemented by heavier arrivals from Great Britain but it is generally feared domestic consumers will feel the full effects of the shortage that looms in the months ahead. Glycerin prices were boosted 5¢ a pound because of scare buying and prospects of a tighter supply position here. Major refiners quickly sold their entire production for July and were reported checking all inquiries and orders for August in an effort to prevent a run-away demand which threatened production schedules. Other major developments in the market over the past month included two advances of 25¢ a pound in California lemon oil, and sharp advances in two articles that are imported from China, namely anise oil and menthol.

Synthetic Detergents Affected

The advance in glycerin marked the first change in the market since March, 1949, or shortly after production of synthetic material got underway for the first time in this country. It was highly unexpected, and in the opinion of some observers, merely tended to aggravate an already tight supply position. The rapidly changed supply position in glycerin can be traced to several factors including the increasing popularity of synthetic detergents which in turn has cut natural glycerin production, a shrinkage in offers of imported crude, and continued heavy takings of refined natural for the account of the domestic consuming trade.

Potash Inventories Low

Potash compounds, caustic soda, and soda ash turned decidedly stronger because of a strike which kept three plants owned by a major producer closed. Many industrial users expressed real concern over the outlook regarding these basic chemicals since their inventories were reported getting down to a dangerously low level. The potash compounds affected included caustic and carbonate potash.

Other price developments included advances in several French floral oils, and an expected break in peppermint oil prices because of new crop influences. The advances in California lemon oil were announced by the California Fruit Exchange. They were followed by similar price adjustments by independent producers. Higher costs as well as a tight supply position in Italian lemon oil were extended as the major reasons for the higher prices on domestic oils. A good seasonal demand for the account of beverage manufacturers also gave considerable support to the hardening trend.

Acids Remain Firm

The late reduction in tartaric acid served to have a stimulating influence in the demand and domestic makers reported good sales. Good quantities of citric acid were also changing hands. Prices were firm at the levels in force during the preceding period under review.

In view of the swift moving developments in the Far East, gum tragacanth and Sumatra benzoin gum displayed additional strength. Both the ribbon as well as the flake forms of tragacanth shared in the acitivity.

Gum rosin prices have been slowly recovering from the low levels prevailing early in June. For a time shortly after the new naval stores season opened April 1, the rosin market suffered a severe break because of the lower Government support price. The recovery in rosin brought prices on the three top grades over 20 per cent above the low levels in force a month ago.

The trend in greases, tallow and coconut oil was upward, and several closely related articles, namely cottonseed and corn oils, showed increases over the prices in force at the close of the previous month.

Alcohols Unaffected by Far East

Industrial alcohol prices were firmly maintained at the higher levels established July 1. Possibilities of a stepped up military program and the turn of events in the Far East failed to have any influence upon buying. This was explained by the fact that a number of buyers had already purchased rather freely prior to July 1 when the new prices were put into effect.

Aromatics Trend Downward

Among the aromatic chemicals, citral was freely offered with prices showing a tendency to move in favor of buyers because of the heavy tone in lemongrass. The ionones displayed a marked degree of strength and the exceedingly strong supply outlook in a number of basic chemicals is likely to be reflected in aromatics over the final quarter of the year.

Coumarin, which enjoys a wide use as a flavoring agent was also attracting a fair amount of attention on the part of perfumers. According to official data recently completed there were 295,700 pounds of synthetic coumarin produced in the United States in 1949.

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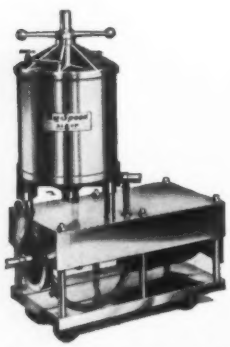

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Avocado	1.10@	1.50
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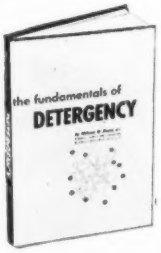

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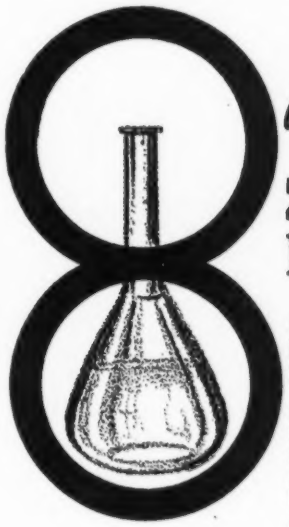

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INDEX TO ADVERTISERS

Alsop Engineering Co. 164
American Cholestral Products, Inc. . 162
Aromatic Products Inc. 108
Atlas Powder Co. ..... —
Association of American Soap & Glycerine producers, Inc. ..... —
Avon Allied Products, Inc. 106

Bopf Whittam Corp. 166
Bridgeport Metal Goods Mfg. Co. .. 162
Bush & Co., Inc., W. J. 89, 161
Bush Aromatics Division of The Dow Chemical Co. .... Inside Back Cover

California Fruit Growers Exchange . 104
Camilli, Albert & Laloue, Inc. ..... —
Carbide and Carbon Chemical Division. Union Carbide anl Carbon Corporation ..... —
Carr-Lowery Glass Co. ..... —
Cavalla, Inc., A. 172
Chiris Co., Inc., Antone . facing page 137
Classified Advertisements 170
Consolidated Fruit Jar Co. 172
Cosmetic Laboratories, Inc. 166
Cosmetries, Inc. ..... —

Danco, Inc., Gerard J. ..... —
DeLaire Division of Dodge & Olcott —
Dodge & Olcott, Inc. 95
Dreyer, Inc., P. R. 107

Fairmount Chemical Co., Inc. 171
Felton Chemical Co., Inc. 112
Fezandie & Sperrle, Inc. 171
Firmenich & Co. ..... Back Cover
Fleuroma, Inc. ..... —
Florasynth Laboratories, Inc. ..... —
French, Benjamin, Inc. ..... —
Fritzsche Brothers, Inc.
Insert between 104-105

Gair Co., Inc., Robert ..... —
Geneva Chemical Co. ..... —
Givaudan-Delawanna, Inc.
Insert between 136-137
Goldschmidt Corp., The ..... —
Gunning & Gunning, Inc. 150

Hamza Plantations ..... —
Hazel-Atlas Glass Co. 97
Heyden Chemical Corp. ..... —
Horn, John 166

Interstate Color Co. ..... —
Ising Corp., C. E. 170

Katz, Dr. Alexander & Co., Div. of F. Ritter & Co. ..... —
Kolar Laboratories, Inc. 158
Klinker Mfg. Co., The 167
Kraft Foods Co. ..... —

Laning, E. M., Co. 166
Lautier Fils, Inc. 92
Leeben Chemical Co., Inc. ..... —
Leonhard Wax Co., Inc., Theodor .. —
Lueders & Co., George 90

Mack Molding Co. 164
Malmstrom & Co., N. I. ..... —
Maryland Glass Corp. .. facing page 136

Naugatuck Aromatics ..... —
Neumann Buslee & Wolfe, Inc. 168
New York Aromatics Corp. ..... —
Nobel, Bofors Krut, A. B. ..... —
Norda Essential Oil & Chemical Co., Inc. 100
Northwestern Chemical Co., The .. —

Orbis Products Corp. ..... —
Owens-Illinois Glass Co. 99

Parento, Inc., Campagnie 93
Parsons, M. W. 169
Penick & Co., S. B. ..... —
Polak & Schwarz, Inc. 130

Richford Corp. 160
Ritter & Co., F. ..... —
Robertet, Inc., P. 96
Roure-Dupont, Inc. 98

Schimmel & Co., Inc. 94
Scovill Manufacturing Co. 105
Sheffield Tube Corp. 110
Society of the Plastics Industry .... —
Solvay Sales Div., Allied Chemical & Dye Corp. 17
Snell, Foster D., Inc. 171
Special Glass Products, Co. 165
Standard Cap & Molding Co. ..... —
Standard Synthetics, Ltd. ..... —
Stanton Chemical Co. 159
Synfleur Scientific Laboratories, Inc. 132
Syntomatic Corp. ..... —

Tennessee Eastman Corp. ..... —
Tombarel Freres ..... —
Tombarel Products Corp. ..... —
Turner White Metal Co., Inc. 158

Ungerer & Co. .... Inside Front Cover
Union Carbide and Carbon Corporation Carbide and Carbon Chemicals Division ..... —
U.S. Industrial Chemicals, Inc.
Insert between 140-141

van Ameringen Haebler, Inc. .. 102-103
Vanderbilt Co., Inc., R. T. ..... —
Verley & Co., Albert ..... —
Verona Chemical Co. 101
Voss Corporation, Karl 168

Wagner Co., Robinson ..... —
Will & Baumer Candle Co., Inc. 171
Wirz, Inc., A. H. ..... Front Cover

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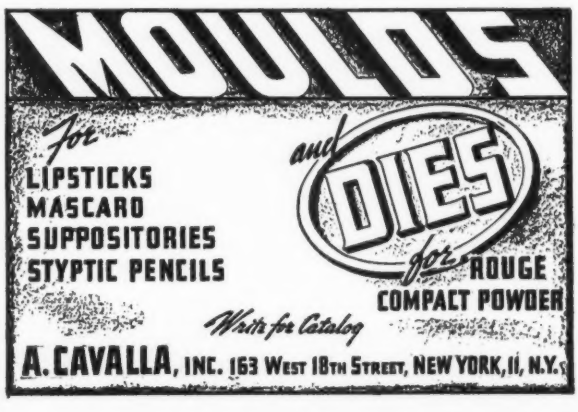

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"Skin Fix" your cosmetic odours with Exaltolide

Colognes & Perfumes

Use EXALTOLIDE in colognes and perfumes to make your fragrance last longer on the skin. EXALTOLIDE helps perfume and cologne odours to cling and not change character. Prefix alcohol with EXALTOLIDE for roundness and softness.

Creams & Lotions

EXALTOLIDE in creams and lotions makes their fragrance skin retentive. Naturally, you use less concentration of perfume in your cosmetic product.

Face Talc & Dusting Powders

Use EXALTOLIDE in powders for more lasting, sustained odour value even in paper boxes.

EXALTOLIDE completes the perfect composition. Write for a brochure.

FIRMENICH & CIE.
SUCCESSEURS DE
CHUIT, NAEF & CIE.
GENÈVE SUISSE

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